LETTER OF INTEREST RF-LOI# 2019-01
CITY OF HARRISBURG, PA
WATER AND WASTEWATER SYSTEM ACQUISITION
SEPTEMBER 16, 2019

LETTER OF INTEREST RF-LOI# 2019-01
CITY OF HARRISBURG, PA
WATER AND WASTEWATER SYSTEM ACQUISITION

ATTACHMENT 1

SUEZ' UTILITY OPERATIONS AND PUBLIC-PRIVATE PARTNERSHIP CONTRACTS

Name of Project	Scope of Services	Client Reference
Pennsylvania Water Utility Operations Harrisburg, PA MGD W: 20 # Employees: 94 Population served: 166,000 in eight counties	• Water treatment and distribution, customer service, metering, billing & collections • Facilities include five water treatment plants, 29 wells and more than 750 miles of main	U.S. Rep. Scott Perry State of Pennsylvania York County District Office 2209 East Market Street York, PA 17402 (717) 600-1919 bob.reilly@mail.house.gov
Franklin County, PA MGD W: 1 MGD WW: 0.25 No. Employees: 4 Population served: 200	• Long-term O&M of water treatment & supply and wastewater treatment & collection systems, and management of Industrial Pretreatment Program • Water facilities include 1-mgd plant, 30 miles of main and four storage tanks • Wastewater facilities include two plants (0.25-mgd total capacity), 30 miles of main, one pump station and nine lift stations • Customer service, metering and billing • Duration: 2015 - 2018; operating since 1998	Cindy Lawyer, Utility Program Manager Cumberland Valley Business Park 5540 Coffey Avenue Chambersburg, PA 17201 (717) 267-9351 ext. 28 lawver@cvbp.com
Delaware Water Utility Operations Wilmington, DE MGD W: 36 # Employees: 60 Population served: 109,000 in Delaware and 5,800 in Bethel, PA	• Water treatment and distribution, customer service, metering, billing & collections • Facilities include two water treatment plants, 13 booster stations, 523 miles of water main and 2,162 fire hydrants	Matthew Hartigan, Deputy Director Delaware Public Service Commission 861 Silver Lake Boulevard Cannon Building, Suite 100 Dover, DE 19904 (302) 736-7532 matthew.hartigan@state.de.us
New Jersey Water Utility Operations Haworth, NJ MGD W: 200 # Employees: 360 Population served: 850,000 in Bergen, Hudson, Sussex & Hunterdon counties	• Water treatment and distribution, customer service, metering, billing & collections • Facilities include the 200-mgd water treatment plant, 13 wells, a 113-square mile watershed, nearly 15,000 fire hydrants and over 2,000 miles of water mains	Mayor Richard LaBarbiera Borough of Paramus, NJ 1 Jockish Square Paramus, NJ 07652 (201) 265-2100 rlabarbiera@paramusborough.org
Toms River Water Utility Operations Toms River, NJ MGD W: 25 # Employees: 56 Populations served: 125,000	• Water treatment and distribution, customer service, metering, billing & collections • Facilities include 24 service production wells (two of which are Aquifer Storage Recovery or ASR wells), 535 miles of water mains, 10 storage tanks, approximately 3,522 hydrants, 7,507 valves, booster stations, various aquifers, four iron treatment plants and two radionuclide treatment plants	The Honorable Tom MacArthur U.S. House of Representatives Township of Toms River Town Hall 33 Washington St Toms River, NJ 08753 (732) 569-6495 norikok@mail.house.gov
Princeton Meadows Wastewater Utility Operations MGD WW: 1.6 Plainsboro, NJ # Employees: 6 Population served: 15,000	• Wastewater treatment & collection • Facilities include one wastewater treatment plant, 36 miles of sewage collection main and five sewage pump stations	The Honorable Jack McNaboe Mayor – Township of Manalapan 120 Route 522 Manalapan, NJ 07726 (732) 446-8308 mayor@mtnj.org

Name of Project	Scope of Services	Client Reference
Matchaponix Water Utility Operations Manalapan, NJ MGD W: 6 # Employees: 6 Population served: 31,000	• Water treatment and distribution, customer service, metering, billing & collections • Facilities include 30 miles of main and sources of water include surface water supplies, aquifer and storage recovery wells, and ground water supplies	The Honorable Jack McNaboe Mayor – Township of Manalapan 120 Route 522 Manalapan, NJ 07726 (732) 446-8308 mayor@mtnj.org
Bayonne, NJ MGD W: 8.5 MGD WW: 8.5 No. Employees: 22 Population Served: 66,000	• Long-term O&M of water supply and wastewater collection systems • Customer service, metering, billing and collections • Duration: 2012 - 2052	Tim Boyle, Superintendent Water & Wastewater City of Bayonne 630 Avenue C Bayonne, NJ 07002 (201) 858-6083 TBoyle@baynj.org
Hoboken, NJ MGD W: 4.4 No. Employees: 1 Population served: 50,000	• Long-term O&M of water supply system • System includes 40 miles of main • Customer service, metering & billing • Duration: 1994 - 2024	Stephen Marks, Business Administrator City of Hoboken 94 Washington St. Hoboken, NJ 07030 (201) 420-2059 smarks@hobokennj.gov
Jersey City, NJ MGD W: 80 No. Employees: 59 Population served: 250,000	• Long-term O&M of water treatment & supply systems • Facilities include 121 square miles of watershed, 50-mgd water filtrations plant (max capacity 80 mgd), 26-mile aqueduct, 330 miles of main, 3,900 hydrants and 6,150 valves • Customer service, metering, billing and collections • Duration: 2018 - 2027; operating since 1996	Jeremy Farrell, Executive Director Jersey City Municipal Utilities Authority 555 Route 440 Jersey City, NJ 07305 (201) 432-1150 j.farrell@jcmua.com
Kearny, NJ MGD W: 13 No. Employees: 6 Population served: 40,600	• Long-term O&M of water supply system • Facilities include 5-mgd water system (via interconnections), 115 miles of main and 710 hydrants • Customer service, metering & billing • Duration: 2016 - 2021; operating since 1999	Alberto Santos, Mayor Town of Kearny 402 Kearny Avenue Kearny, NY 07032 (201) 955-7400 mayor@kearnynj.org
Orange, NJ MGD W: 5.5 MGD WW: 5 No. Employees: 4 Population served: 30,100	• Long-term O&M of water treatment & supply and wastewater collection systems • Water facilities include six-well system (5.5 mgd), 60 miles of main and one storage tank • 5-mgd wastewater system includes 35 miles of main • Customer service, metering, billing and collections • Duration: 2018 - 2023; operating since 2003	Marty Mayes, DPW Director City of Orange Township 29 North Day Street Orange, NJ 07050 (973) 266-4174 mmayes@ci.orange.us
Rahway, NJ MGD W: 6 No. Employees: 13 Population served: 27,000	• Long-term O&M of water treatment & supply systems • Facilities include a 6-mgd water filtration plant, 96 miles of main, 780 hydrants and 1,300 valves • Customer service, metering, billing and collections • Duration: 2017 - 2037; operating since 1999	Cherron Rountree, Business Administrator City of Rahway 1 City Hall Plaza Rahway, NJ 07065 (732) 827-2001 crountree@cityofrahway.com

Name of Project	Scope of Services	Client Reference
New York Water Utility Operations West Nyack, NY MGD W: 40.5 # Employees: 120 Population served: 300,000 in Rockland and Orange counties	• Water treatment and distribution, customer service, metering, billing & collections • Facilities include two water treatment plants, 1,053 miles of distribution main, 6,312 hydrants and 60 groundwater supply wells	Howard Phillips, Town Supervisor Town of Haverstraw One Rosman Road Garnerville, NY 10923 (845) 429-2200 supervisor@townofhaverstraw.org
South County Sewer Utility Operations Tuxedo, NY MGD WW: .484 # Employees: 4 Population served: 340 in parts of Tuxedo and Warwick in Orange County, NY	• Wastewater collection, treatment and disposal, customer service, billing & collections • Facilities include five sewer treatment plants	Steve Neuhaus, County Executive Orange County 255 Main Street Goshen, NY 10924 (845) 291-2700 ceoffice@orangecountygov.com
Westchester Water Utility Operations New Rochelle, NY MGD W: 59.7 # Employees: 69 Population served: 200,000 in southern Westchester County, NY	• Water distribution, customer service, metering, billing & collections • Facilities include 600 miles of water main and 4,400 hydrants	Chuck Strome, City Manager City of New Rochelle 515 North Avenue New Rochelle, NY 10801 (914) 654-2140 cstrome@newrochelleny.com
Owego-Nichols Water Utility Operations Owego, NY MGD W: 2.34 # Employees: 5 Population served: 4,550 in towns of Owego and Nichols in Tioga County, NY	• Water treatment and distribution, customer service, metering, billing & collections • Facilities include 25 miles of water main, 131 hydrants and five operating wells	Senator Bill Larkin State of New York 1093 Little Britain Road New Windsor, NY 12553 (845) 567-1270 larkin@nysenate.gov
Mohawk Valley, NY MGD W: 32 No. Employees: 7 Population served: 126,500	• Long-term O&M of water treatment system • Facilities include 32-mgd surface water plant • Duration: 2017 - 2022	Philip Tangorra, Director of Water Quality Mohawk Valley Water Authority 1 Kennedy Plaza Utica, NY 13502 (315) 792-0319 ptangorra@mvwa.us
Mount Kisco, NY MGD W: 6 No. Employees: 3 Population served: 10,900	• Long-term O&M of water treatment system • Facilities include 6-mgd surface water treatment plant, 4 wells, 77 miles of main and 4 storage tanks • Duration: 2016 - 2018 (negotiating extentsion); operating since 2004	Ed Brancati, Village Manager Village of Mount Kisco Municipal Building, 104 Main Street Mount Kisco, NY 10549 (914) 864-0001 edbrancati@mountkisco.org

Name of Project	Scope of Services	Client Reference
Nassau County, NY MGD WW: 115.2 No. Employees: 32 Population served: 1,200,000	• Long-term O&M of wastewater treatment & collection system • Facilities include three wastewater plants (115 mgd combined), 3,000 miles of main and 57 lift stations • Duration: 2015 - 2035	Kenneth Arnold, Public Works Commissioner Nassau County 1194 Prospect Avenue Westbury, NY 11590-2723 (516) 571-9604 karnold@nassaucountyny.gov
New Castle, NY MGD W: 10 No. Employees: 7 Population served: 24,600	• Long-term O&M of water treatment system • Facilities include 10-mgd water treatment plant, 120 miles of main and 3 storage tanks • Duration: 2014 - 2018; operating since 1999	Gerard Moerschell, Commissioner of Public Works Town of New Castle 200 South Greeley Avenue Chappaqua, NY 10514 (914) 941-0668 morschel@mynewcastle.org
Poughkeepsie, NY MGD WW: 4.06 No. Employees: 8 Population served: 33,000	• Long-term O&M of wastewater treatment system • Facilities include 4-mgd activated sludge plant • Duration: 2016 - 2021; operating since 2011	Jay Baisley, Town Supervisor Town of Poughkeepsie 1 Overocker Road Poughkeepsie, NY 12603 (845) 463-1550 jbaisley@town ofpoughkeepsie.ny.gov
Rhode Island Water Utility Operations Wakefield, RI MGD W: 7 No. Employees: 9 Population served: 19,600 in Narragansett and South Kingstown, RI	• Water treatment and distribution, customer service, metering, billing & collections • Facilities include seven wells, 113.5 miles of main and 640 hydrants	Jon Schock, Public Services Director Town of South Kingstown 509 Commodore Perry Highway Wakefield, RI 02879 (401) 789-9331 jschock@southkingstownri.com
East Providence, RI MGD WW: 14.2 No. Employees: 21 Population served: 49,000	• Design-build-operate (DBO) to convert conventional activated sludge facility to IFAS-ready BNR facility; 10-year O&M agreement includes management of facility, Industrial Pretreatment Program, 130-mile collection system and 25 pump stations • $53M of capital improvements include increasing plant design flow capacity from 10.2 to 14.2 mgd; replacement of Watchemoket Cove Pump Station, five new pump stations and upgrades to remaining pump stations • Duration: 2010 - 2020	Steve Coutu, P.E., DPW Director City of East Providence 145 Taunton Avenue East Providence, RI 02914 (401) 435-7701 scoutu@cityofeastprov.com

Name of Project	Scope of Services	Client Reference
Newport, RI MGD WW: 10.7 No. Employees: 26 Population served: 65,000	• Design-build-operate (DBO) and long-term O&M of wastewater treatment system, Industrial Pretreatment Program & biosolids management • Completed $11M of capital improvements to 10.7-mgd activated sludge secondary plant and collection system, including 14 pump stations • New DBO began in 2016 to implement $38M of infrastructure and treatment process upgrades to wastewater treatment plant, raising treatment capacity from 19.7 to 30 mgd • Duration: 2016 - 2036	Julia Forgue, Director of Utilities City of Newport 34 Malbone Rd. Newport, RI 02840 (401) 845-5601 jforgue@cityofnewport.com
Pawtucket, RI MGD W: 25 No. Employees: 15 Population served: 71,100	• DBO and long-term O&M of water treatment system • Facilities include 25-mgd surface water treatment plant and 8 wells • Completed $70M of design and construction of water treatment plant, raw water intake, storage tank, and new and rehabilitated water main • Duration: 2004 - 2024	Jim DeCelles, Chief Engineer Pawtucket Water Supply Board 85 Branch Street Pawtucket, RI 02860 (401) 729-5001 decelles@pwsb.org
Warren, RI MGD WW: 2.01 No. Employees: 5 Population served: 11,000	• Long-term O&M of wastewater treatment & collection systems • Facilities include 2.01-mgd wastewater plant, 40 miles of main and 10 pump stations • Duration: 2016 - 2021; operating since 2004	Kate Michaud, Interim Town Manager Town of Warren 514 Main Street Warren, RI 02885 (401) 245-7554 DKinney@townofwarren-ri.gov
Woonsocket, RI MGD W: 7.5 No. Employees: 7 Population served: 44,000	• DBO and long-term O&M of new water treatment plant, which will be commissioned in 2020 • Facilities include a raw water pump station and 7.5-mgd water treatment plant • Duration: 2018 - 2040	Stephen P. D'Agostino, Public Works Director City of Woonsocket 169 Main Street Woonsocket, RI 02895 (401) 597-0857
Killingly, CT MGD WW: 8 No. Employees: 7 Population served: 8,700	• Long-term O&M of wastewater treatment & collection systems • Facilities include 8-mgd activated sludge plant, 14 lift stations and 60 miles of sewer main • Duration: 2015 - 2020; operating since 1997 • Revenue: $2 - $3M/year over 5 years	David Capacchione, DPW Director Town of Killingly 172 Main Street Killingly, CT 06239 (860) 779-5351 dcapacchione@killinglyct.org
Newtown, CT MGD W: 0.175 MGD WW: 0.932 No. Employees: 4 Population served: 10,000	• Long-term O&M of water treatment & supply and wastewater treatment systems • Water facilities include three-well system (0.175 mgd) and two 500,000-gallon storage tanks • Wastewater facilities include one 0.932-mgd wastewater facility, 23 miles of sewer main and 5 pump stations • Duration: 2014 - 2019; operating since 2004	Frederick Hurley, Public Works Director Town of Newtown 4 Turkey Hill Road Newtown, CT 06470 (203) 270-4300 arlene.miles@newtown-ct.gov

Name of Project	Scope of Services	Client Reference
Ridgefield, CT MGD WW: 1.12 No. Employees: 5 Population served: 11,000	• Long-term O&M of wastewater treatment & collection systems • Facilities include two wastewater plants (total 1.12 mgd), 23 miles of main and 6 pump stations • Duration: 2015 - 2018; operating since 2004	Diana Van Ness, Administrator Water Pollution Control Authority Town of Ridgefield Town Hall Annex 66 Prospect Street Ridgefield, CT 06877 (203) 431-2734 dvanness@ridgefieldct.org
Stonington, CT MGD WW: 2.85 No. Employees: 10 Population served: 17,500	• Long-term O&M of wastewater treatment & collection systems • Facilities include 3 wastewater plants (total 2.85 mgd), 120 miles of main and 18 pump stations • Duration: 2014 - 2019; operating since 1999	Doug Nettleton, Director Stonington WPCA 152 Elm Street Stonington, CT 06378 (860) 535-5065 dnettleton@stonington-ct.gov
Agawam Pump Stations Agawam, MA MGD WW: 6 No. Employees: <2 Population Served: 28,500	• Long-term O&M of wastewater collection system which includes 14 pump stations totaling 6 MGD • Duration: 2017 - 2021; operating since 2002	Chris Golba, DPW Superintendent City of Agawam 1000 Suffield Street Agawam, MA 01001 (413) 821-0623 cgolba@agawam.ma.us
Devens, MA MGD W: 4.8 MGD WW: 4.65 No. Employees: 7 Population served: 3,500	• Long-term O&M of wastewater treatment & collection systems, biosolids management • Wastewater facilities include 4.65-MGD advanced wastewater treatment plant, 50 miles of main and four pump stations • Long-term O&M of water treatment & supply systems • Water facilities include 5-mgd water treatment plant, four wells, 50 miles of main and 425 hydrants • Duration: 1999 - 2019	Mark Cohen, Utilities Manager Mass Development Funding Agency 33 Andrews Parkway Devens, MA 01434 (978) 784-2911 mcohen@massdevelopment.com
Gardner, MA MGD W: 4.3 MGD WW: 5 No. Employees: 17 Population served: 20,200	• Long-term O&M of water treatment & supply, wastewater treatment & collection systems • Water facilities include two plants (surface water plant and groundwater well with total capacity of 4.3 mgd), 90 miles of main, 800 hydrants, 2,000 valves and three storage tanks • Wastewater facilities include 5-mgd advanced water pollution control facilityt, 75 miles of main and 14 pump stations • Duration: 1998 - 2018; operating since 1986	Chris Coughlin, City Engineer City of Gardner 95 Pleasant Street Gardner, MA 01440 (978) 630-4010 ccoughlin@gardner-ma.gov
Holyoke, MA MGD WW: 17.5 No. Employees: 14 Population served: 55,000	• Long-term O&M of wastewater treatment & collection systems • Facilities include 17.5 conventional activated sludge plant (peak flow of 37 mgd), 40 miles of sewer main, 77 miles of combined sewer and stormwater main, 13 permitted combined sewer overflow (CSO) outfalls, three interceptors and seven remote pump stations • Administration of Industrial Pretreatment Program • Duration: 2005 - 2025	Michael McManus General Superintendent City of Holyoke 63 Canal Street Holyoke, MA 01040 (413) 322-5645 mcmanusm@holyoke.org

Name of Project	Scope of Services	Client Reference
Hyannis, MA MGD W: 7.75 No. Employees: 10 Population served: 45,000	• Long-term O&M of water treatment & supply systems • Facilities include 4 groundwater treatment facilities, 2 booster stations, 12 wells and 106 miles of main • Customer service, metering, billing and collections • Duration: 2014 - 2019; operating since 2009	Hans Keijser, Supervisor Hyannis Water System 47 Old Yarmouth Road Hyannis, MA 02601 (508) 775-0063 hans.keijser@town.barnstable.ma. us
Rockland, MA MGD WW: 2.5 No. Employees: 8 Population served: 18,600	• Long-term O&M of wastewater treatment system & biosolids management • Facilities include 2.5-mgd wastewater plant, 54 miles of main and 13 pump stations • Duration: 2014 - 2019; operating since 2004	John Loughllin, Superintendent Town of Rockland P.O. Box 330 Rockland, MA 02370 (781) 878-1964 jloughlj@yahoo.com
Springfield, MA MGD WW: 67 No. Employees: 38 Population served: 275,000	• Long-term O&M of wastewater treatment & collection systems, biosolids management • Facilities include 67-mgd wastewater plant, 15 miles of main, 25 pump stations and 24 CSO regulator stations • Initial capital investments total $12.4M • Duration: 2000 - 2020	William Fuqua, Director of Wastewater Operations Spring Water & Sewer Commission (413) 787-6256 bill.fuqua@waterandsewer.org
Jaffrey, NH MGD WW: 1.25 No. Employees: 5 Population served: 850	• Long-term O&M of wastewater treatment & collection system • Facilities include 1.25-mgd treatment facility, 15 miles of gravity and force main and 400 manholes • Duration: 2018 - 2023; operating since 2005	Doug Starr, Town Engineer Town of Jaffrey 23 Knight Street Jaffrey, NH 03452 (603) 532-7876 starrd@townofjaffrey.com
Carthage, NC MGD W: 1 No. Employees: 2.5 Population served: 2,205	• Long-term O&M of water treatment system • Facilities include 1.0-mgd water plant and three storage tanks • Metering and billing • Duration: 2018 - 2023; operating since 2003	Tom Robinson, Town Manager Town of Carthage 4396 Hwy 15-501 Carthage, NC 28327 (910) 947-2331 Townmanager.admin@townofcarthage.org
Elkin, NC MGD W: 3 No. Employees: 2.5 Population served: 4,000	• Long-term O&M of water treatment system • Water facilities include 3-MGD surface water treatment plant and four storage tanks • Duration: 2017 - 2022; operating since 2002	Jonathan Holcomb, Town Manager Town of Elkin P.O. Box 857 Elkin, NC 28621 (336) 835-9800 jwholcomb@elkinnc.org
Enfield, NC MGD W: 1 MGD WW: 1 No. Employees: 5 Population served: 2,300	• Long-term O&M of water & wastewater treatment systems • Water facilities include 1-mgd surface water treatment plant and two storage tanks • Wastewater facilities include 1-mgd wastewater plant and 11 lift stations= • Duration: 2016 - 2021; operating since 2002	Michael Powell, Director of Public Works Town of Enfield P.O. Box 699 Enfield, NC 27823 (252) 445-5181 mpowell@enfieldnc.org

Name of Project	Scope of Services	Client Reference
Farmville, NC MGD WW: 3.5 No. Employees: 4 Population served: 4,300	• Long-term O&M of wastewater treatment system • Facilities include 3.5-mgd plant • Duration: 2016 - 2021; operating since 1994	Carroll Griffin, Utility Systems Analyst Town of Farmville P.O. Box 86 Farmville, NC 27878 (252) 753-6707 cgriffin@farmville-nc.com
Martin County, NC MGD W: 2 No. Employees: 3 Population served: 24,500	• Long-term O&M of water treatment system, industrial wastewater treatment and biosolids management • Facilities include 2-mgd surface water plant, one well, one pump stations and two storage tanks • Duration: 2016 - 2021	David Bone, Chairman, Martin County Regional Water & Sewer Authority 305 East Main Street Williamston, NC 27892-0668 (252) 789-4300 dbone@martincountyncgov.com
Mayodan, NC MGD WW: 3.5 No. Employees: 2 Population served: 2,500	• Long-term O&M of wastewater treatment & collection systems, biosolids management • Facilities include 4.5-mgd activated sludge plant • Duration: 2017 - 2022; operating since 1983	Michael Brandt, Town Manager Town of Mayodan 210 W. Main Street Mayodan, NC 27027 (336) 427-0241 mbrandt@townofmayodan.com
Ramseur, NC MGD W: 0.7 MGD WW: 0.48 No. Employees: 6 Population served: 2,000	• Long-term O&M of water & wastewater treatment systems • Water facilities include 0.7-mgd surface water treatment plant and two storage tanks • Wastewater facilities include 0.48-mgd wastewater system • Duration: 2014 - 2019; operating since 1997	Mayor Danny Shaw Town of Ramseur P.O. Box 545 Ramseur, NC 27316 (336) 824-4111 mayor@townoframseur.org
Rutherfordton, NC MGD WW: 3 No. Employees: 2 Population served: 3,900	• Long-term O&M of wastewater treatment system • Facilities include 3-mgd wastewater plant and 4 lift stations • Duration: 2016 - 2021; operating since 1988	Doug Barrick, Town Administrator Town of Rutherfordton 129 N. Main Street Rutherfordton, NC 28139 (828) 287-3520 dbarrick@rutherfordton.net
Scotland Neck, NC MGD WW: 1.2 No. Employees: 14 Population served: 2,300	• Long-term O&M of water supply and wastewater treatment & collection systems • Water facilities include 0.3-mgd water system, 15 miles of main and one storage tank • Wastewater facilities include 1.5-mgd wastewater plant and 5 lift stations • Metering and billing • Duration: 2016 - 2021; operating since 2006	Nancy Dempsey, Town Administrator Town of Scotland Neck 1310 Main Street Scotland Neck, NC 27874 (252) 826-3152 ndempsey@townofscotlandneck.com
Southern Pines, NC MGD W: 11 No. Employees: 6 Population served: 12,000	• Long-term O&M of water treatment system • Facilities include 11-mgd surface water plant, 75 miles of main and 5 storage stations • Duration: 2016 - 2021; operating since 1991	Reagan Parsons, Town Manager Town of Southern Pines P.O. Box 870 Southern Pines, NC 28387 (910) 692-7021 parsons@southernpines.net

Name of Project	Scope of Services	Client Reference
Taylortown, NC MGD W: 0.175 No. Employees: 0 Population served: 700	• Long-term O&M of water treatment system • Groundwater well system includes 3 wells (total 0.175 mgd) and 3 storage tanks • Duration: 2016 - 2020; operating since 2001	Mayor Ulysses Barrett Town of Taylortown P.O. Box 1274 Pinehurst, NC 28370 (910) 295-4010 taylortownclerk2@gmail.com
Yadkin Valley, NC MGD WW: 1.2 No. Employees: 1.5 Population served: 5,000	• Long-term O&M of wastewater treatment system • Facilities include 3-mgd wastewater plant • Duration: 2017 - 2022; operating since 2002	Nicole Johnston, Manager Yadkin Valley Sewer Authority 209 Memorial Park Drive Elkin, NC 28621 (336) 835-9819 nicole.johnston@yvsa.org
Virginia Beach, VA MGD W: 60 No. Employees: 5 Population served: N/A	• Long-term O&M of water supply system • Water facilities include 60-mgd pump station with raw water intake, 76 miles of 60-inch main, six overhead river crossings and two pressure sustaining valve structures • Duration: 2016 - 2021; operating since 1998	Steve Poe, Project Manager Department of Public Utilities City of Virginia Beach 2405 Courthouse Drive Operations Bldg, Room 232 Virginia Beach, VA 23456-2617 (757) 385-8666 spoe@vbgov.com
Laurel, MS MGD W: 7.6 MGD WW: 14 No. Employees: 48 Population served: 18,500	• Long-term O&M of water treatment & supply and wastewater treatment & collection systems • Water facilities include 3 plants (total 7.6 mgd), 16 wells and 76 miles of main • Wastewater facilities include 2 plants (total 14 mgd), 47 pump stations and 200 miles of sewer main • Metering and billing • Duration: 2016 - 2026; operating since 2006	Mayor Johnny Magee City of Laurel P.O. Box 647 Laurel, MS 39441 (601) 428-6401 jmagee@laurelms.com
Huber Heights, OH MGD W: 11.46 No. Employees: 18 Population served: 37,000	• Long-term O&M of water treatment & supply and wastewater collection systems • Water facilities include 10 groundwater wells (11.46 mgd), iron and manganese removal water treatment plant (4.46 and 7 mgd), over 170 miles of main, over 2,000 hydrants and 1,700 valves • Wastewater collection facilities include 151 miles of sewer main, 3,600 manholes and 19 lift stations • Customer service, metering, billing and collections • Duration: 2014 - 2027; operating since 1995	Russ Bergman, City Engineer City of Huber Heights 6131 Taylorsville Rd Huber Heights, OH 45424 (937) 233-1423 rbergman@hhoh.org
Wellsville, OH MGD WW: 1 No. Employees: 2 Population served: 3,500	• Long-term O&M of wastewater treatment & collection systems, biosolids management • Facilities include 1-mgd wastewater plant, 14.6 miles of main, 3 pump stations, 1 lift station and 3 CSO monitoring stations • Duration: 2014 - 2019; operating since 1994	Rick Williams, Village Administrator Village of Wellsville 1200 Main Street Wellsville, OH 43968 (330) 532-2524 ext. 14 villageadmin@wellsvilleohio.us

Name of Project	Scope of Services	Client Reference
Alpena, MI MGD W: 6 MGD WW: 5.5 No. Employees: 16 Population served: 10,500	• Long-term O&M of water treatment & supply and wastewater treatment & collection systems • Water facilities include 6-mgd surface water treatment plant, 80 miles of main, two elevated water tanks and one ground water tank • Wastewater facilities include 5.5-mgd water recycling plant and 12 pump stations • Customer service, metering, billing and collections • Duration: 2012 - 2020; operating since 1986	Rich Sullenger, City Engineer City of Alpena 208 N. First Avenue Alpena, MI 49707-2885 (989) 354-1731 richs@alpena.mi.us
Butman, MI MGD WW: 0.6 No. Employees: 3 Population served: 2,900	• Long-term O&M of wastewater treatment & collection systems • Facilities include 0.6-mgd lagoon plant, 60 miles of gravity collection main, 10 miles of force main and 19 lift stations • Duration: 2016 - 2020; operating since 2000	Dan Gonzales, Township Supervisor Butman Township 5005 North Hockaday Rd Gladwin, MI 48624 (989) 426-4351 butmansupervisor@gmail.com
Grosse Ile, MI MGD WW: 2.25 No. Employees: 3 Population served: 10,300	• Long-term O&M of wastewater treatment system & biosolids management • Facilities include 2.25-mgd plant and five lift stations • Duration: 2015 - 2020; operating since 1987	Lorinda Beneteau, Department of Public Services Administrative Manager Grosse Ile Township 9601 Groh Road Gross Ile, MI 48138 (734) 676-4422 x228 Lorindab@grosseile.com
Lowell, MI MGD WW: 1.5 No. Employees: 2 Population served: 3,800	• Long-term O&M of wastewater treatment system & biosolids management • Facilities include 1.4-mgd plant and 3 lift stations • Duration: 2015 - 2020; operating since 1989	Mike Burns, City Manager City of Lowell 301 E. Main Street Lowell, MI 49331 (616) 897-8457 mburns@ci.lowell.mi.us
Portage, MI MGD W: 5.75 MGD WW: 10.8 No. Employees: 16 Population served: 46,300	• Long-term O&M of water treatment & supply and wastewater treatment & collection systems • Water facilities include 26.3-mgd groundwater well system, 21 production wells, two elevated storage tanks and 263 miles of main • Wastewater facilities include 10.8-mgd collection system, 220 miles of wastewater collection main, 56 lift stations, one stormwater station, 100 miles of storm sewer main and 85 storm drainage retention basins • Customer service, metering and billing • Duration: 2017 - 2022; operating since 1992	Kendra Gwin, T&U Director City of Portage 7719 South Westnedge Avenue Portage, MI 49002-5160 (269) 329-4422 buellr@portagemi.gov
Wixom, MI MGD W: 1.748 MGD WW: 2.89 No. Employees: 8 Population served: 13,500	• Long-term O&M of water treatment & supply and wastewater treatment & collection systems • Water facilities include 1.25-mgd water system, 4 wells, 81 miles of main and one storage tank • Wastewater facilities include a 2.89-mgd wastewater plant, 81 miles of main, one pump station and 2 lift stations • Customer service, metering, billing and collections • Duration: 2014 - 2019; operating since 1994	Tim Sikma, Director of Public Works City of Wixom 2041 Charms Road Wixom, MI 48393 (248) 624-0141 Tsikma@wixomgov.org

Name of Project	Scope of Services	Client Reference
Algoma, WI MGD WW: 1 No. Employees: 3 Population served: 3,100	• Long-term O&M of wastewater treatment facilities which include 1.0-MGD activated sludge plant and seven lift stations • Duration: 2018 - 2027; operating since 2013	Mike Decur, Director of Public Works City of Algoma 416 Fremont Street Algoma, WI 54201 (920) 487-2391 mike.decur@algomacity.org
Sturgeon Bay, WI MGD W: 6 MGD WW: 2.816 No. Employees: 8 Population served: 9,100	• Long-term O&M of water & wastewater treatment systems • Groundwater well system includes 5 wells and 3 plants (total 6 mgd), 80 miles of main and 7 storage tanks • Wastewater facilities include 2.816-mgd plant, 82 miles of main and 11 lift stations • Duration: 2015 - 2025; operating since 2006	Cliff White, Operations Manager Sturgeon Bay Utilities 230 E. Vine Street P.O. Box 27 Sturgeon Bay, WI 54235 (920) 746-2820 cwhite@wppienergy.org
Clarence Cannon, MO MGD W: 10 No. Employees : 7 Population served: 73,000	• Long-term O&M of water treatment system • Facilities include 10-mgd surface water plant, seven storage tanks, 350 miles of main and five booster pump stations • Duration: 2018 - 2023; operating since 1992	Mark McNally, General Manager Clarence Cannon Wholesale Water Commission 34146 Route U Stoutsville, MO 65283 (573) 672-3237 ccwwc.h20@gmail.com
Idaho Water Utility Operations Boise, ID MGD W: 100.5 # Employees: 98 Population served: 250,000 in Boise and Ada and Canyon counties	• Water treatment and distribution, customer service, metering, billing & collections • Facilities include 90 wells, two surface water treatment plants, 36 reservoirs, two green sand iron and manganese removal plants, seven major pressure zones, 43 booster stations, 80 large pressure regulating valves and 1,130 miles of water main	Mayor David Bieter City of Boise 150 North Capitol Boulevard Boise, ID 83702 (208) 972-8520 mayor@cityofboise.org
Banning, CA MGD WW: 3.6 No. Employees: 5 Population served: 29,600	• Long-term O&M of wastewater treatment facilities include 3.6-MGD plant • Duration: 2018 - 2019; operating since 1993	Art Vela, Director of Public Works City of Banning 99 E. Ramsey Street Banning, CA 92220 (951) 922-3134 avela@ci.banning.ca.us
Burbank, CA MGD WW: 12.5 No. Employees: 25 Population served: 100.000	• Long-term O&M of wastewater treatment system and administration of Industrial Pretreatment Program • Wastewater facilities include 8.5-mgd water reclamation plant, two lift stations and 226 miles of main • Duration: 2016 - 2021; operating since 1990	Stephen Walker, Assistant Director Wastewater Systems City of Burbank 150 North Third Street P.O. Box 6459 Burbank, CA 91510-6459 (818) 238-3940 SWalker@burbankca.gov

Name of Project	Scope of Services	Client Reference
West Basin, CA MGD WW: 65 No. Employees: 52 Population served: N/A	• Long-term O&M of internationally acclaimed water recycling facility • Scope of services include project management; laboratory services; R&D; engineering and consulting services; design review; capital improvement planning and implementation as well as administrative including Human Resources and Environment, Health and Safety • Facilities include 41.8-mgd recycling facility and 3 tertiary facilities totaling over 40 mgd • Duration: 2014 - 2018; operating since 1994	Patrick Sheilds, General Manager West Basin Municipal Water District 17140 S. Avalon Boulevard Carson, CA 90746 (310) 660-6200 patricks@westbasin.org

LETTER OF INTEREST RF-LOI# 2019-01
CITY OF HARRISBURG, PA
WATER AND WASTEWATER SYSTEM ACQUISITION

ATTACHMENT 2

annual report 2018

SUEZ and Jersey City Municipal Utilities Authority Partnership

table of contents

EXECUTIVE SUMMARY

The 2018 calendar year period ending December 31, 2018 was a successful one for SUEZ in Jersey City. SUEZ worked closely with the Jersey City Municipal Utilities Authority (JCMUA) to achieve a number of operational goals including technical assessments and advances, capital repair and replacement projects, process optimization, asset management, research, safety enhancements, cost reductions and improved system reliability. In addition to operational activities, SUEZ played a role in the Jersey City community, which included volunteer and donations to various organizations. In May of 2018 the JCMUA and SUEZ signed an agreement that extends the current contract for another 9 years to 2027.

The following Executive Summary highlights the achievements and challenges of the Jersey City contract during the 2018 operational year.

DEPTH OF RESOURCES

SUEZ brings national and global knowledge to all of its projects, ensuring the availability of world-class solutions. In true partnership with clients, SUEZ is committed to providing appropriate strategies that enable the project team to exceed its objectives.

SUEZ fully understands the demands of the JCMUA to maintain compliance with environmental regulations while minimizing costs to the commercial and residential users of the water system. Future capital expenditures to replace and update aging infrastructure are a challenge. These demands often require technical capabilities that are not readily available as part of the City's capabilities. SUEZ has experts in virtually every area of water and wastewater treatment, utility management, energy, human resources, capital planning and construction. SUEZ has provided the JCMUA with global, regional and local technical services support.

SUEZ' Jersey City team has access to the full complement of technical, operational and administrative resources available from SUEZ' 3,260 water and wastewater professionals. The expertise of our people is broad, spanning O&M services and support for engineering and GIS mapping, and accounting, customer service and billing, human resources, management systems, information technology, safety and security, and operational support.

Much of this expertise is accessible from SUEZ' local located in Paramus, NJ, about 15 miles from Jersey City, along with over 1,100 SUEZ employees serving various contracted operations, regulated utilities and support functions throughout the greater New York City area.

Additionally, SUEZ has a specialized group of experienced mechanics, instrumentation technicians, heavy equipment operators and supervisory – all with "hands-on" experience in water processes and equipment. This support group works throughout New Jersey to support projects similar to Jersey City with skilled tradesmen. Our employees are trained to overcome obstacles, get the job done on time and within budget.

All of these resources detailed above have been made available to local and to the JCMUA to exceed our contracted scope of services at no additional cost.

CUSTOMER SERVICE

The 2018 operating period was a successful year for Customer Service in Jersey City. Some examples of accomplishments include:

- Collected $118.3 million in revenue
- ram for non-payment and the Lien Sale

ENVIRONMENT, HEALTH, SAFETY & SECURITY

Employee engagement in safety happens through various forums such as training, safe work planning and job safety analyses, unsafe condition reporting and participation in an Environment, Health, Safety & Security (EHSS) Committee. For the 2018 operating period, SUEZ did not experience any OSHA recordable injuries.

Some examples of key EHSS initiatives implemented during the 2018 operating year include:

- Improvements to the EHSS contractor orientation program: Before beginning work, each contractor authorized to perform work at the Jersey City facilities is required to complete the EHSS orientation and is issued an orientation card. The program is aimed at prevention of injuries and environmental incidents.
- Improvements to the hazardous waste program: The program was reviewed and revamped at the Jersey City facilities to improve the management of any hazardous waste.
-
- Continued implementation of Intelex, an incident reporting tracking tool to more document incidents related to safety, regulatory compliance, inspections, security or any issue no matter how minor for tracking, review and action.

HUMAN RESOURCES

SUEZ has an experienced of and properly licensed operators who have successfully provided Jersey City with water operation services over the past year. To maintain a high level of operational excellence, employees are provided with training and opportunities for career development Some notable achievements include:

- Justin Berg was promoted from Crew Leader to Supervisor, Operations
- Dennis David was promoted from Senior Financial Analyst to Assistant Project Manager
- Michael Hlavaty was promoted from Superintendent, Systems Maintenance to Manager, System & Distribution
- Brian Adams obtained his NJ Boiler Operator's License - Black Seal
- ater Treatment T1 and NJ W
- Michele Raia earned her Associate Degree in Business Administration

COMMUNITY RELATIONS

Throughout the operating period, SUEZ continued to play an active role in the community. Examples of community outreach include:

- Corporate Green Day Challenge with EarthShare New Jersey
- STEM Initiatives at Jersey City Public Schools
- Thanksgiving turkey donations
- Boys and Girls Clubs

CONCLUSION

Over the past year, SUEZ has been a part of the fabric of the community and values the ongoing partnership with the JCMUA and Jersey City. Looking back on the success of the 2018 operating period, SUEZ looks forward to building upon this successful collaboration. SUEZ has the necessary tools and resources to meet and exceed the City's expectations to meet the City's growing needs and is ready to make them available to Jersey City.

INTRODUCTION

SUEZ has performed Operations and Maintenance activities in accordance with the Operating Agreement with the Jersey City Municipal Utilities Authority during the calendar year starting January 1, 2018 through December 31, 2018.

STAFFING

SUEZ totals 61 full-time employees divided into six areas:

Department	# of Employees as of Dec. 31, 2017
Watershed	5
Treatment Plant	15
Aqueduct	5
Transmission & Distribution	21
Meter Shop	12
Administration	3
Total	**61**

There are approximately 32 full-time equivalents that work on the Jersey City project on a part-time basis and they are comprised of the Customer Service Bureau or CSB (3), Customer Service (9) and full-time equivalents that range from executive to accounting, engineering, distribution, construction and other services not

OPERATIONS OVERVIEW

WATERSHED

The drainage area of the Upper Rockaway River covers 121 square miles. Within this system Jersey City owns the Boonton Reservoir and Split Rock Reservoir. The Boonton Reservoir is on the Rockaway River and has a capacity of 7.989 billion gallons. The Split Rock Reservoir has a storage capacity of 3.306 billion gallons and acts as a secondary supply during times of low The Split Rock outfall feeds Beaver Brook, a tributary of the Rockaway River about 6.5 miles above the Boonton Reservoir. The Split Rock Reservoir watershed is about square miles and recovers much slower than the Boonton Reservoir. The use of Split Rock is limited to extreme conditions.

The watershed is in good condition environmentally, with much of the area forested. The Rockaway River does travel through several towns and can pick up contaminants and trash along the way. In addition the watershed has some from industries that have long since moved away. As these areas receive attention and get cleaned up, an internal water sampling program continues.

There are currently 14 active sampling sites in the watershed. Two are sampled daily — at the intake to the Boonton Reservoir and at the intake to the treatment plant. Twelve are done monthly and are stationed throughout the basin and divided into sub-watersheds. We sample for temperature, pH, dissolved oxygen, alkalinity, chloride, hardness, phosphates, nitrates, nitrites, aluminum, iron, manganese, copper and bacteria. The sampling program

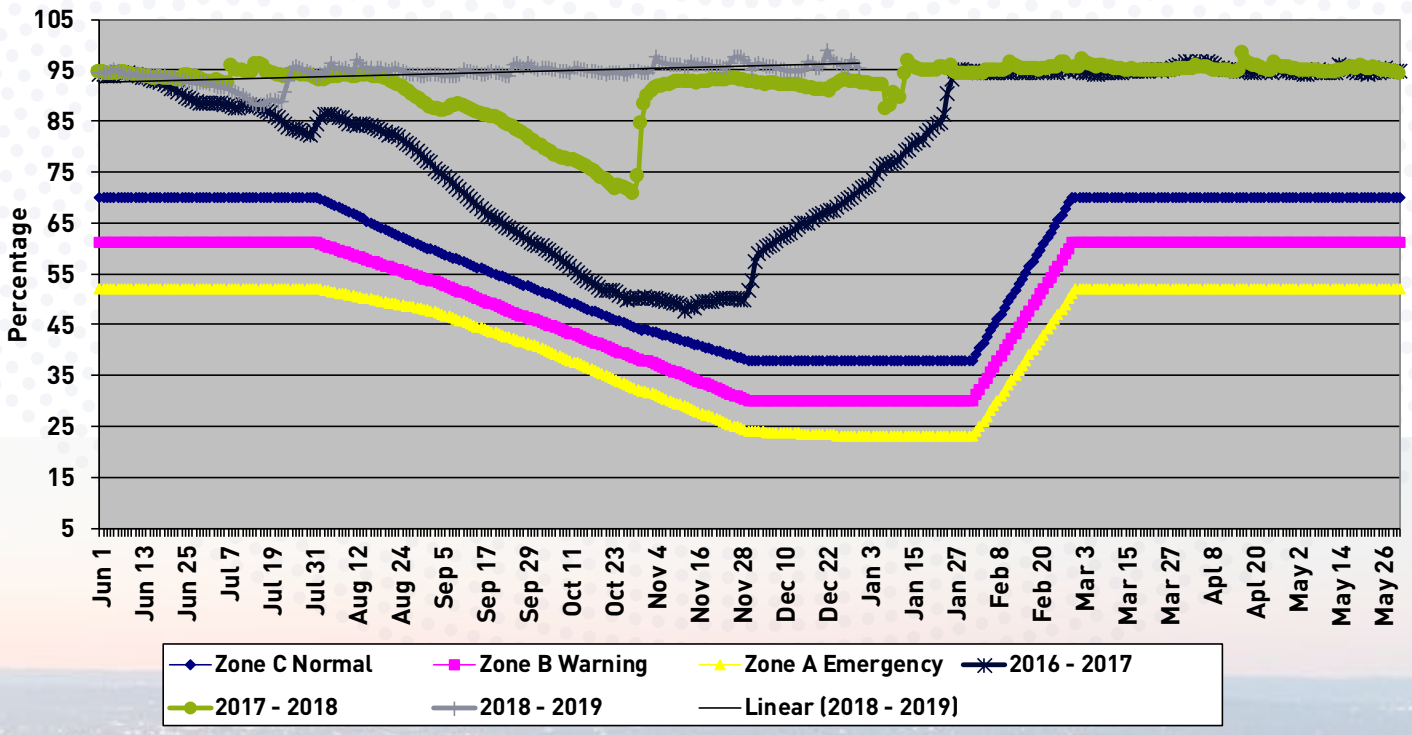
Precipitation levels in 2018 totaled 76.6 inches, which was an increase of 34.0 inches from the 42.6 inches of rainfall in 2017. Compared to the long-term average of 45 inches, 2018 was an above average year. 2018 was the wettest year of record with 76.6 inches of rainfall followed by 1975 with 66.22 inches of rainfall followed by 1972 with 65.27 inches and 1973 with 62.52 inches. The following table summarizes precipitation levels for 2018 compared to the maximum and minimum months and years of record with the long-term average.

Boonton Reservoir: Precipitation (inches of rainfall) 1895 – 2018

Month	2018 Actual	Maximum	Max Year	Minimum	Min Year	Average
Jan	4.43	8.96	1978	0.42	1970	3.41
Feb	5.73	11.62	1979	0.83	1987	3.21
Mar	5.20	8.48	2010	1.16	1915	3.92
Apr	6.41	10.75	1983	0.91	1985	3.80
May	5.08	11.19	1989	0.53	1903	3.82
Jun	3.03	13.87	1972	0.24	1949	3.98
Jul	8.12	11.04	2004	0.39	1999	4.55
Aug	11.75	11.75	2018	0.27	1964	4.56
Sep	8.04	10.84	1999	0.04	1914	3.67
Oct	3.45	9.95	2005	0.30	1963	3.45
Nov	8.71	9.29	1972	0.51	1917	3.22
Dec	6.60	9.24	1983	0.39	1955	3.41
Total	**76.6**	**66.22**	**1975**	**32.60**	**1965**	**45.00**

Storage in 2018 for the Boonton Reservoir averaged 94.57% compared to a plan of 87.9% full. Combined average for both Boonton and Split Rock Reservoirs is 96.52% full in 2018 compared to a plan of 90.1% full. During 2018, rainfall levels were above average with 76.6 inches compared to 45 inches as a long-term average. Although precipitation levels were above average, water supply storage remained in the normal range. The following chart shows how the Boonton Reservoir compared seasonally to previous years.

Rule Curve: Jersey City Reservoir



WATER TREATMENT PLANT

Pumpage — Raw Water

The maximum month was achieved during January 2018 with 1,625,464,000 gallons of raw water. Demand over the last years has been declining likely because of leak repairs, main rehabilitation projects and a customer base that generally uses less water.

Annual Summary	Raw (gallons)	Max Month Raw (gallons)	Average Day Max Month (MGD)
1996	18,196,770,000	1,772,340,000	57.17
1997	19,410,370,000	1,872,950,000	60.42
1998	18,527,450,000	1,845,500,000	59.53
1999	19,118,450,000	2,102,270,000	67.82
2000	18,276,210,000	1,755,840,000	56.64
2001	17,920,710,000	1,794,270,000	57.88
2002	15,312,437,000	1,624,580,000	52.41
2003	18,194,893,000	1,666,110,000	53.75
2004	18,178,237,675	1,723,040,000	55.58
2005	18,381,525,000	1,878,440,000	60.59
2006	17,726,812,000	1,772,467,000	57.18
2007	16,715,750,000	1,766,040,000	56.97
2008	18,164,770,000	1,800,680,000	58.09
2009	16,804,750,000	1,786,750,000	45.91
2010	16,864,930,000	1,834,280,000	59.17
2011	17,163,690,000	1,641,610,000	52.96
2012	15,106,079,000	1,692,890,000	41.27
2013	16,009,466,000	1,580,410,000	43.86
2014	14,546,521,000	1,432,530,000	39.25
2015	15,979,220,000	1,583,100,000	43.37
2016	15,411,789,000	1,529,738,000	42.22
2017	15,322,981,000	1,657,202,000	41.98
2018	16,476,186,000	1,625,464,000	45.14

Water Quality

Water quality delivered to Jersey City residents met and exceeded Safe Drinking Water Act (SDWA) standards in 2018.

Raw water turbidity and color averaged 2.2 NTU and 19 color units respectively. The following table summarizes the average turbidity and color data for the raw water coming into the plant measured at the Lower Gate House ell.

2018	Raw Turbidity (NTU)	Raw Color (Color Units)	Finished Turbidity (NTU)	Finished Color (Color Units)
Maximum	6.9	50	1.5	1.0
Minimum	1.4	10	0.08	0
Average	2.2	19	0.12	1.0

Finished water quality met the regulatory standards for turbidity of 0.3 NTU 95% of the time on a monthly basis.

To ensure the bacteriological integrity of the distribution system, 1,877 samples were collected at various locations. Overall in 2018, only 2% of the samples were found to be positive. In no month did that percentage increase beyond the SDWA requirement of 5%. The table below summarizes the bacteriological sampling for 2018.

Month	Total Samples	# Positive	% Positive
Jan	158	1	0.6%
Feb	158	0	0.0%
Mar	154	2	1.3%
Apr	155	2	0.0%
May	150	5	0.62%
Jun	158	0	0.0%
Jul	146*	3	0.0%
Aug	153	3	0.0%
Sep	172	5	0.63%
Oct	164	1	0.0%
Nov	157	1	0.0%
Dec	152	9	0.0%
Total	**1,877**	**23**	**2%**
Average	**156**	**2**	**0.20%**

*4 samples were missed in July due to lab error. Actions and controls were put in place to prevent a reoccurrence.

Chlorine residual levels were well within the required range of safety to ensure that customers were protected in 2018. The following table summarizes free and total chlorine and pH levels during the year at the Romaine Meter House.

Romaine Meter House	F-Cl2	T-Cl2	pH
Maximum	1.83	1.99	7.37
Minimum	0.90	1.18	6.92
Average	1.43	1.61	7.10

The plant continued to perform well in regard to the formation of disinfection byproducts. THM4 and HAA5 were below the regulatory standard of 80 mg/L and 60 mg/L respectively. In most cases the plant met the 80% rule and came in under for both categories of disinfection byproducts.

Maintenance Work Orders Completed

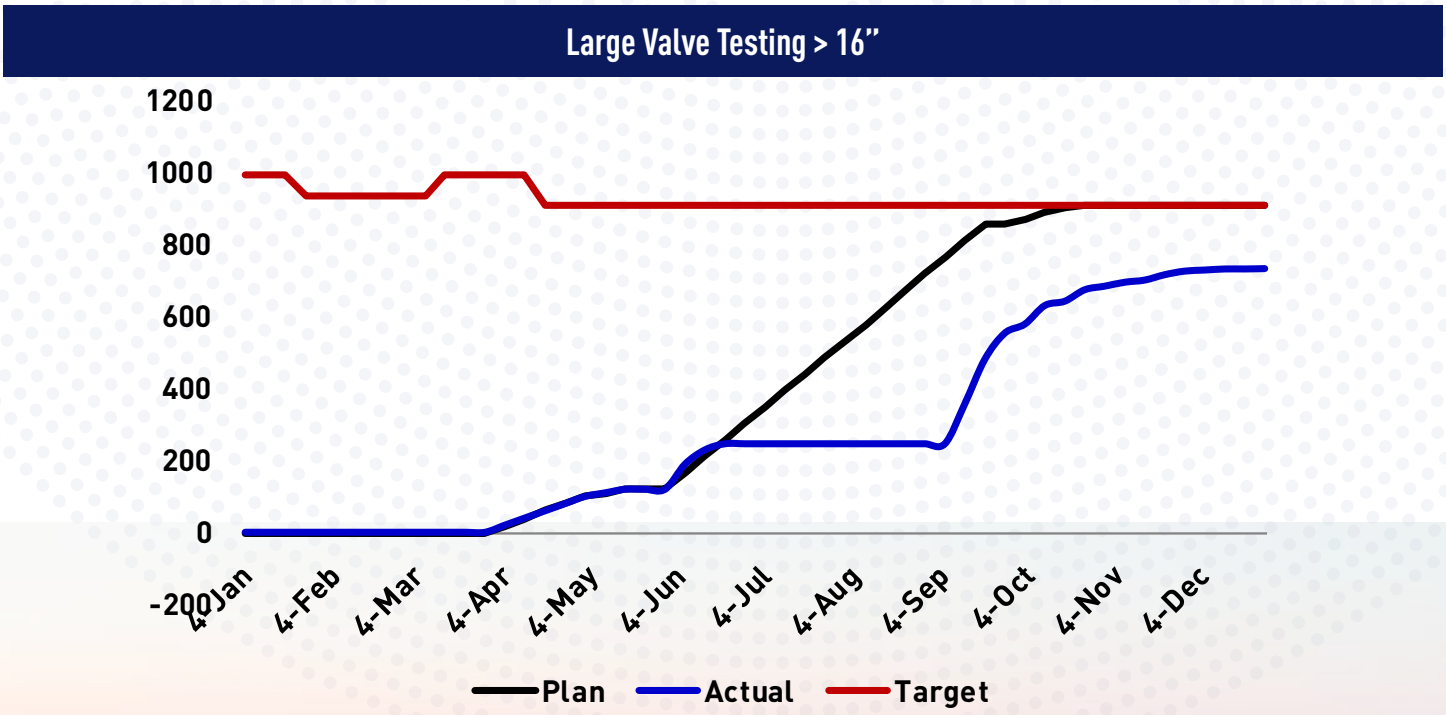
Maintenance activities for the water treatment plant have been performed on a routine basis and are recorded on the MP2 software. In 2018, there were a total of 1,517 work orders completed that break down into 287 corrective maintenance, 170 preventive maintenance and 1,060 routine maintenance activities. Since 1997, maintenance activities have totaled 44,149 work orders completed. Work order processing was changed in 2015 where tasks were consolidated into single work orders. The total number of work orders in 2015 matches up with total work orders completed in 2011 and prior. Between 2012 and 2014 individual tasks, each had a single work order. In 2015, each work order had multiple tasks. The following table provides a summary and breakdown of the maintenance activities performed at the water treatment plant.

Summary	Corrective Maintenance	Preventive Maintenance	Routine Maintenance	Totals
1997	181	38	89	308
1998	309	78	144	531
1999	232	72	177	481
2000	308	309	394	1,011
2001	284	359	1,027	1,670
2002	233	448	1,226	1,907
2003	218	506	1,167	1,891
2004	187	596	1,068	1,851
2005	160	460	1,236	1,856
2006	128	458	1,220	1,806
2007	201	466	1,159	1,826
2008	111	523	1,225	1,859
2009	143	511	1,095	1,749
2010	191	611	1,099	1,901
2011	299	431	832	1,562
2012	316	906	3,884	5,106
2013	330	795	4,240	5,365
2014	254	652	4,329	5,235
2015	260	258	1,168	1,686
2016	248	204	1,076	1,528
2017	353	156	994	1,503
2018	287	170	1,060	1,517
Totals	**5,243**	**9,007**	**29,909**	**44,149**

AQUEDUCT

Aqueduct Valve Exercising Program

A total of 644 valves were tested in 2018 against a plan of 720. A list of the and recommended repairs has been submitted to the JCMUA. The following chart shows the aqueduct valve testing program as compared to plan.



The usual maintenance repairs and activities were performed on the aqueduct during 2018.

Maintenance Work Orders Completed

In 2018, a total of 332 work orders were completed that break down into 51 corrective maintenance, 2 preventive maintenance and 279 routine maintenance activities. Since 2002, a total of 8,773 work orders have been completed. The following table provides a summary and breakdown of the maintenance activities performed on the aqueduct.

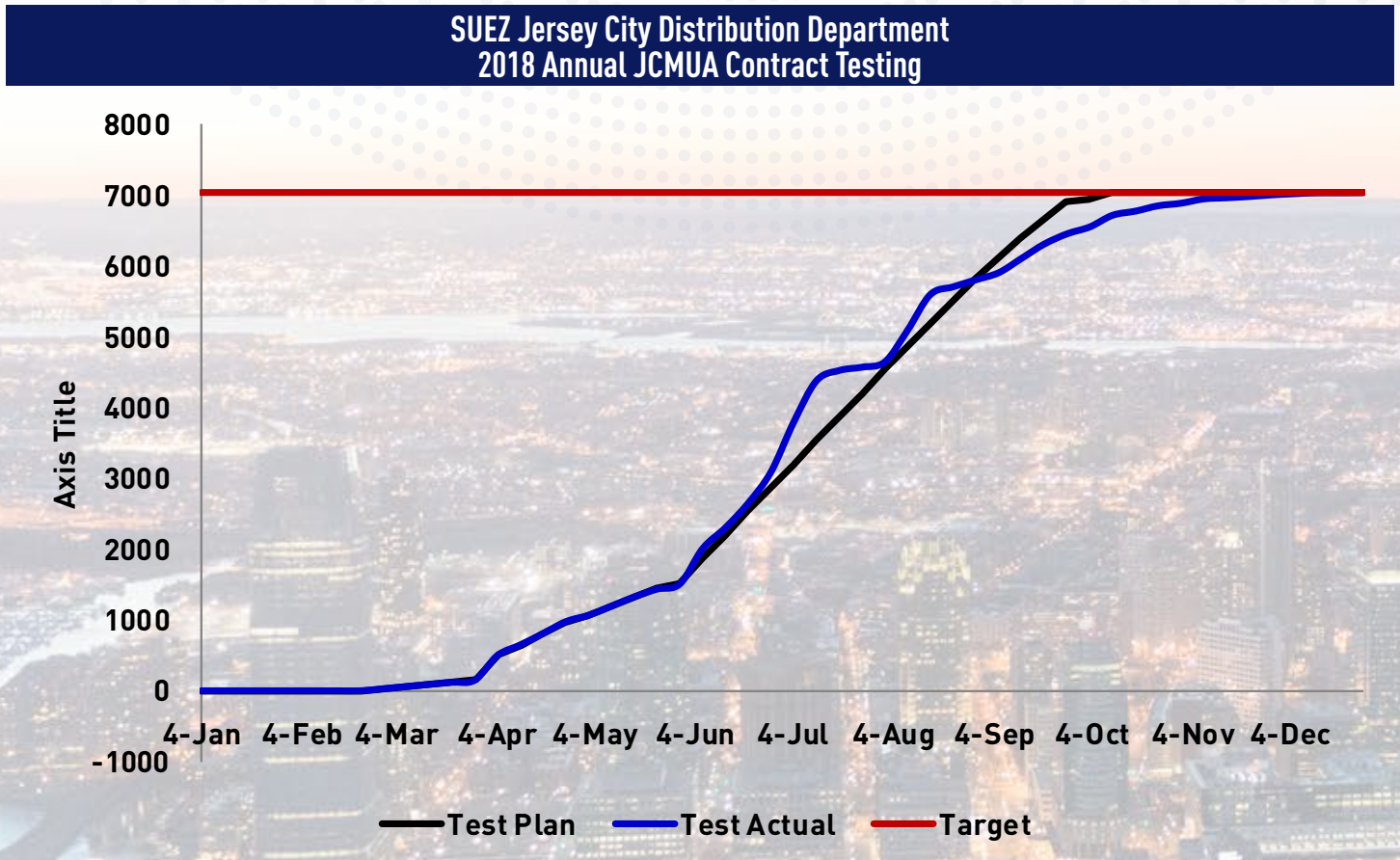
Summary	Corrective Maintenance	Preventive Maintenance	Routine Maintenance	Totals
2002	207	39	426	672
2003	112	24	414	550
2004	52	26	487	565
2005	36	3	339	378
2006	20	9	387	416
2007	135	14	536	685
2008	117	12	587	716
2009	41	6	369	416
2010	50	10	303	363
2011	62	5	312	379

Summary	Corrective Maintenance	Preventive Maintenance	Routine Maintenance	Totals
2012	98	2	346	446
2013	89	3	160	252
2014	122	9	427	558
2015	215	89	517	821
2016	223	105	529	857
2017	150	107	442	699
2018	51	2	279	332
Totals	**1,780**	**465**	**6,860**	**9,105**

DISTRIBUTION AND CONSTRUCTION

During 2018 the Water Quality Accountability Act (WQAA) required aggressive testing requirements for valves and hydrants that impacted our ability to meet all targets without additional resources. Large valve testing was below target by 175. All 4,000 hydrants were tested and tagged as required by the WQAA when compared to the contract extension requirement of 1,000 per year. In UDF, 434 sequences were completed as compared to the 720 target. Small valve testing exceeded the target by 471. Overall we met the total annual testing.

The graphs and tables on the following pages summarize distribution activities in 2018.



During 2018, a total of 2,240 activities were performed in the distribution system, which are tabulated in the following table.

Activity Type	2017 Totals
MAIN 100	151
SVC 200	367
C/B 300	31
VLV 400	294
HYDT 500	593
MISC 600	400
MTR 800	6
TAP 900	398
Total	**2,240**

There were a total of 65 main breaks in 2018, down from 77 in 2017 as indicated in the table below.

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2001	24	10	10	4	8	6	3	5	2	2	6	14	**94**
2002	18	18	5	7	13	10	10	9	8	13	8	10	**129**
2003	20	17	12	5	6	1	0	7	4	2	5	14	**93**
2004	26	21	4	4	11	11	2	14	6	9	8	12	**128**
2005	13	21	9	4	10	5	9	5	6	4	9	15	**110**
2006	13	5	5	7	10	7	7	9	2	6	3	8	**82**
2007	15	35	7	7	4	7	5	11	9	5	17	1	**123**
2008	15	8	7	7	4	3	9	5	8	12	9	15	**102**
2009	29	13	8	8	11	9	16	11	6	4	5	22	**142**
2010	20	10	7	1	4	5	3	2	3	5	5	12	**77**
2011	24	9	8	6	0	5	8	7	7	14	11	19	**118**
2012	21	6	9	7	2	6	3	10	4	3	3	8	**82**
2013	24	13	7	8	7	7	9	6	6	7	6	27	**127**
2014	30	14	11	4	5	9	3	5	7	6	7	17	**118**
2015	33	18	13	6	2	11	5	6	2	2	3	9	**110**
2016	19	11	8	8	2	2	3	2	2	6	8	11	**82**
2017	13	5	8	13	4	2	3	9	1	6	4	9	**77**
2018	19	6	5	2	2	5	3	5	0	6	7	5	**65**

Historically, maintenance activities have remained consistently high since 1996 as shown below.

Year	Total CSB Work Orders
1996	2,298
1997	3,596
1998	2,610
1999	1,935
2000	2,187
2001	2,091
2002	2,445
2003	2,110
2004	4,076
2005	2,992
2006	2,402
2007	2,113
2008	1,897
2009	1,797
2010	1,681
2011	1,456
2012	1,526
2013	1,815
2014	2,125
2015	1,953
2016	1,934
2017	1,760
2018	2,240
Total	**47,039**

BULK USERS

Bulk user volumes in 2018 totaled 4.4 billion gallons. See the following table for the monthly breakdown.

Bulk Users	Volume (MG)
Jan	364,347
Feb	335,434
Mar	362,768
Apr	350,497
May	237,022
Jun	508,631
Jul	393,832
Aug	391,756
Sep	19,525
Oct	702,702
Nov	348,476
Dec	359,815
Total	**4,374,805**

Compared to previous years, bulk user demand remained about the same.

METERING

METER CHANGE-OUT PROGRAM

As part of the contract obligation to install a number of meters each year, the following is an update on progress made to date. Overall SUEZ has completed the installation of 10,337 meters, exceeding the target of 10,328 meters established in 2009. The following table is a breakdown by year.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Projected Installs	**636**	**664**	**796**	**843**	**844**	**884**	**894**	**894**	**923**	**923**	**923**	**1,046**	**10,328**
Installed in 2009	0	0	0	0	0	0	0	0	0	22	53	30	105
Installed in 2010	12	40	16	14	7	25	16	119	121	189	56	95	710
Installed in 2011	54	66	246	95	87	118	33	137	44	44	47	23	994
Installed in 2012	24	55	201	205	224	274	221	342	293	300	198	183	2,520
Installed in 2013	127	179	98	379	473	324	297	444	395	179	118	61	3,074
Installed in 2014	39	10	4	20	41	50	60	72	47	45	46	14	448
Installed in 2015	16	42	19	36	29	18	7	18	6	17	8	2	218
Installed in 2016	4	42	35	71	69	25	15	13	15	5	16	4	314
Installed in 2017	2	13	10	55	384	104	126	168	190	199	142	75	1,468
Installed in 2018	79	83	36	48	15	24	57	13	11	4	32	12	414
Total	**377**	**538**	**677**	**926**	**1334**	**968**	**833**	**1328**	**1124**	**1008**	**718**	**506**	**10,337**

CUSTOMER SERVICE

For the period ending December 31, 2018, retail collection (not including bulk customers) received by the JCMUA totaled $109,009,359 on retail billings totaling $109,235,861. The data presented here adjustments in billing and interest that from data presented in the monthly operations reports. A monthly tabulation of retail water, sewer and interest billings and collections is as follows:

Billings 2018						
Month	**Net Water Billings**	**Net Sewer Billings**	**Total Net Billings**	**Water Interest Billed**	**Sewer Interest Billed**	**Total**
Jan	$6,025,268	$6,312,886	$12,338,154	$77,639	$40,017	$12,455,810
Feb	$2,545,020	$2,429,736	$4,974,756	$77,143	$38,872	$5,090,772
Mar	$4,776,755	$5,048,328	$9,825,083	$40,144	$17,875	$9,883,102
Apr	$5,500,644	$5,655,254	$11,155,899	$59,141	$25,272	$11,240,312
May	$2,796,084	$2,379,785	$5,175,869	$62,034	$28,434	$5,266,337
Jun	$5,476,753	$5,353,211	$10,829,964	$61,912	$27,746	$10,919,622
Jul	$5,577,949	$5,989,602	$11,567,551	$82,351	$33,973	$11,683,875
Aug	$2,865,324	$2,402,125	$5,267,449	$88,317	$39,541	$5,395,307
Sep	$5,503,303	$5,805,996	$11,309,299	$73,430	$26,729	$11,409,458
Oct	$5,444,988	$5,689,784	$11,134,771	$93,470	$36,362	$11,264,602
Nov	$1,947,983	$2,286,277	$4,234,259	$98,189	$39,193	$4,371,642
Dec	$4,894,227	$5,215,224	$10,109,451	$110,073	$35,497	$10,255,021
Total	**$53,354,298**	**$54,568,208**	**$107,922,506**	**$923,844**	**$389,511**	**$109,235,861**

Collections 2018						
Month	**Net Water Collections**	**Net Sewer Collections**	**Total Net Collections**	**Water Interest Collected**	**Sewer Interest Collected**	**Total**
Jan	$5,041,615	$4,634,811	$9,676,427	$72,069	$29,987	$9,778,483
Feb	$4,307,185	$4,324,628	$8,631,812	$32,301	$20,087	$8,684,200
Mar	$3,044,344	$3,756,432	$6,800,776	$30,931	$18,812	$6,850,519
Apr	$5,123,047	$4,743,471	$9,866,519	$73,324	$35,084	$9,974,927
May	$4,082,890	$4,534,986	$8,617,876	$35,549	$20,910	$8,674,334
Jun	$3,456,522	$3,622,462	$7,078,984	$37,419	$17,645	$7,134,048
Jul	$4,941,998	$5,087,305	$10,029,303	$29,889	$16,190	$10,075,382
Aug	$4,709,379	$5,601,685	$10,311,064	$51,775	$26,215	$10,389,055
Sep	$3,576,949	$2,828,446	$6,405,395	$50,337	$27,413	$6,483,145
Oct	$5,642,727	$6,006,058	$11,648,786	$59,893	$31,340	$11,740,019
Nov	$3,933,763	$4,579,823	$8,513,586	$53,090	$27,054	$8,593,730
Dec	$5,641,921	$4,675,393	$10,317,314	$204,606	$109,597	$10,631,517
Total	**$53,502,341**	**$54,395,501**	**$107,897,842**	**$731,184**	**$380,334**	**$109,009,359**

The above table shows retail and does not revenues generated from bulk sales to Parsippany, Montville, Hoboken and SUEZ New Jersey Utility Operations.

Bulk purchase revenues are found in the following table:

Month	Bulk Billings	Bulk Collections
Jan	$819,053	$2,379,882
Feb	$754,056	$26,938
Mar	$815,503	$1,310,923
Apr	$787,918	$1,078,254
May	$532,826	$1,073,002
Jun	$1,143,403	$547,946
Jul	$885,335	$1,087,320
Aug	$880,668	$542,857
Sep	$111,263	$2,520
Oct	$1,579,675	$1,345,236
Nov	$1,255,455	$90,692
Dec	$827,598	$2,067,376
Total	**$10,392,753**	**$11,552,946**

Total net collections (including interest) for 2018 are $118,130,650 compared to $119,114,451 in 2017. There was no rate increase in 2018.

The table below shows net collections since the year 2000 including an increase each year.

Year	Net Collections
2000	$ 64,855,663
2001	$ 63,089,117
2002	$ 62,839,998
2003	$ 61,600,837
2004	$ 63,628,316
2005	$ 68,066,548
2006	$ 77,414,122
2007	$ 77,804,776
2008	$ 81,694,860
2009	$ 78,828,381
2010	$ 93,238,476
2011	$ 99,338,758
2012	$ 105,260,022
2013	$ 104,624,768
2014	$ 110,975,476
2015	$ 114,894,840
2016	$ 118,315,862
2017	$ 119,114,451
2018	$ 118,130,650

MAINTENANCE OVERVIEW

Repairs to equipment and facilities are handled through the MMREF and Capital Outlay programs d in the contract. If the amount of the repair exceeds $5,000, approvals are requested from the JCMUA after three bids are presented and recommendations made as to the contractor of choice. SUEZ pays for repairs under $5,000.

The following table shows a sampling of major MMREF projects during 2018.

Project	Project Cost
Grand St. & Westervelt	$6,304.14
Boonton Fiberglass Tank	$6,945.00
Grand & Greene St.	$7,334.49
Repair of Overhead Hoist	$8,105.17
Broadway (132)	$9,241.38
Troy St. Underground Electrical Vaults	$9,675.00
Fishouse Rd.	$11,839.25
Boonton RPZ Valve	$14,700.00
Troy St. Pump Station New Motor #3	$14,900.00
Baldwin Ave. & Newark Ave.	$16,068.27
Muffin Monster Repair	$21,080.00
Ridge Rd. (60)	$29,078.00
Grand St. & Ivy Place (3/8/18 & 3/12/18)	$29,648.64
Boonton Centifuge Semi Annual Maintenance	$32,525.97
Westervelt Pl. & Grand St.	$32,921.53
Boonton Protective Curtain	$36,000.00
Schuyler Ave. No. Arlington	$36,396.88
842 Bergen St.	$39,470.00
Duffield & St. Paul's - Hackensack River 36" Water Leak	$48,175.71
Boonton Sludge Holding Tank	$51,715.00
Boonton Water Plant Sludge Tank Mixer	$54,881.95
Mall Dr. West & 6th Street	$81,840.21
Troy St, Altitude Valve Replacement	$124,500.00
Hydrant Labeling	$131,209.00
Hancock St.	$415,916.00
Boonton Instrumentation Upgrade Final	$513,311.27
South and Pierce St. Water Main Replacement	$514,536.96
Summit & Carlton 42in Cut & Cap	$644,969.29
Total	**$2,943,289.11**

ENVIRONMENT, HEALTH, SAFETY & SECURITY

HEALTH & SAFETY

Through December 31, 2018, SUEZ did not experience any OSHA recordable injuries. SUEZ is committed to providing its employees with a th, safety and security (EHSS) training program. This training program is based on individual training needs of each employee, with input from the EHSS manager. Applicable training courses are assigned to the individual employees based on individual job responsibilities.

Additionally, based on latest industrial research, SUEZ continues to other critical, high-value training programs. One such example is research that shows slips, trips and falls is a major cause of workplace accidents. SUEZ has focused much of its recent training on awareness and prevention of this type of injury. While SUEZ in North America has never experienced a fatal accident by any employees, we continue to emphasize the 10 Life Saving Rules, which were implemented at all projects in 2013 and continued through 2018.

Examples of key EHSS initiatives implemented at the Jersey City project in 2018 include:

- **Drive to Zero campaign.** The goal is to achieve zero 'lost time' accidents at all SUEZ operations. This requires all to continue safety inspections of the JCMUA water facilities – water treatment plant, transmission & distribution facilities, meter shop and 23-mile aqueduct. This company-wide inspection program, using OSHA inspired guidelines, scrutinizes for safety infractions, no matter how minor. The Drive to Zero campaign has already remedied more than 200 issues, making the workplace safer for everyone.
- **Routine training sessions, seminars and compliance workshops.** SUEZ at the Jersey City project regularly participated in training activities listed on the next page and continues training to ensure compliance with the new Global Harmonized Standards.
- **Intelex Event Reporting Software.** Despite the Drive to Zero campaign, SUEZ recognizes some safety hazards cannot be eliminated or controlled. If an injury, accident, unsafe condition or near-miss event occurs a complete investigation is conducted in an to prevent such an occurrence from happening again. SUEZ utilizes the web-based program Intelex to guide the through the investigation. Intelex allows an organization to easily record, track, trend and investigate the types of safety-related incidents which increases the of our EHSS program. This investigative tool involves SUEZ personnel from the local (facility) level and depending on its severity, the highest levels of the EHSS division, who work together to determine root causes and remedies for each incident. For example, SUEZ employees at the Jersey City project now use special needle-resistant gloves during certain routine tasks such as de-ragging a pump in an

- Asbestos Awareness
- Bloodborne Pathogens Training
- Chemical Hygiene Plan Training
- Cleaning Up Small Chemical Spills
- Space Authorized Entrant, Attendant, Supervisor
- Egress & Emergency Action/Response Plan
- Excavation & Trenching Safety
- Fall Protection / Fall Prevention Awareness
- Fire Extinguisher
- First Aid
- Hand & Power Tools
- Hazard Communication
- Ladder Safety
- Lockout/Tagout–Authorized Employee Training
- Machine Guarding
- Personal Protective Equipment
- Preventing Slips, Trips & Falls
- Process Safety Management Training
- Work Zone Safety

SUEZ continues to possess and train all employees on the use of an Automatic External (AED). An AED is a portable electronic device that automatically diagnoses the life-threatening cardiac arrhythmias and ventricular tachycardia in a stricken worker. An AED has the ability to treat victims through , the application of electrical therapy which stops the arrhythmia, allowing the heart to reestablish an rhythm. Although SUEZ hopes the device will never be needed, having it on site is a comfort to an aging work force.

ENVIRONMENTAL COMPLIANCE

SUEZ has an equally good environmental compliance record which is in a high level of compliance at all projects including Jersey City. One of the highest priorities is complete transparency in all environmental matters at all projects. To accomplish this, the state-of-the-art Water Information Management System (Hach WIMS™) is used to monitor and track all compliance data. This data is reviewed daily, weekly and monthly, and any issues are immediately reported, investigated for root-causes, and appropriate corrective and preventive measures are implemented. This data is also automatically transferred into the monthly report format for the State, thus eliminating the potential for any data transcription/calculation errors.

The Jersey City system experienced an error in reporting coliform samples during the month of July 2018. The required number of samples to be collected is 150 but because of an issue with the laboratory transitioning to a new reporting system, a total of four (4) samples were missed and had to be reported to NJDEP. Controls were then implemented to prevent a reoccurrence.

SUEZ also participates in its parent company's (Paris-based SUEZ) annual reporting campaign. Pertinent data from all projects is reported to Paris and is benchmarked against water and wastewater treatment facilities across the world. Any deviations are noted and shared with the management team and are used to optimize plant operations for the clients we serve. This is a high-value service which SUEZ provides to all its clients at no cost to them.

COMMUNITY RELATIONS

CORPORATE GREEN DAY CHALLENGE

Overall community relations in Jersey City continued to grow and expand in 2018. This year for the time we partnered with EarthShare New Jersey for their annual Corporate Green Day Challenge. Together, with the JCMUA, we ventured to Liberty State Park for a day of clean up and rehabilitation.

SUEZ volunteers at the Corporate Green Day Challenge

STEM INITIATIVES

SUEZ also participated in the Jersey City Medical Center/RWJ Barnabas Health STEM Showcase. SUEZ is a proud supporter of STEM (Science, Technology, Engineering and Math) initiatives and has a robust school outreach program. With engineers and subject matter experts ready to present to the community, SUEZ promotes a positive mentoring program that inspires students to dream big and pursue their passion.

SUEZ Engineer Tugba Akgun demonstrates how she applys STEM skills to students of J.W. Wakeman Public School 6.

"On behalf of the students, teachers, parents and administrators of J.W. Wakeman School 6 in Jersey City, we wish to thank you for taking the time to visit our school and to assist us in experiencing the value of learning engineering skills first hand," said Principal Joseph Apruzzese. "We hope that you enjoyed your time with us and that your experience moved and empowered you as much as it empowers our students every time they engage in STEM activities and have the opportunity to learn from professionals in the field."

THANKSGIVING TURKEY DONATIONS

New to the initiatives this year was the partnership with Jersey City to distribute turkeys to families in need. A few days before Thanksgiving, SUEZ teamed up with The Shauger Group (TSG) to spread some Thanksgiving joy. Together, TSG and SUEZ donated more than 200 turkeys to the City so that the turkeys could be distributed to families and organizations throughout the community. Members of SUEZ and TSG were on hand to present the turkeys to Mayor Steven Fulop, who accepted them on behalf of the City and helped coordinate to distribute them to citizens.

Mayor Fulop (third from right) accepts donated turkeys from SUEZ on behalf of the City

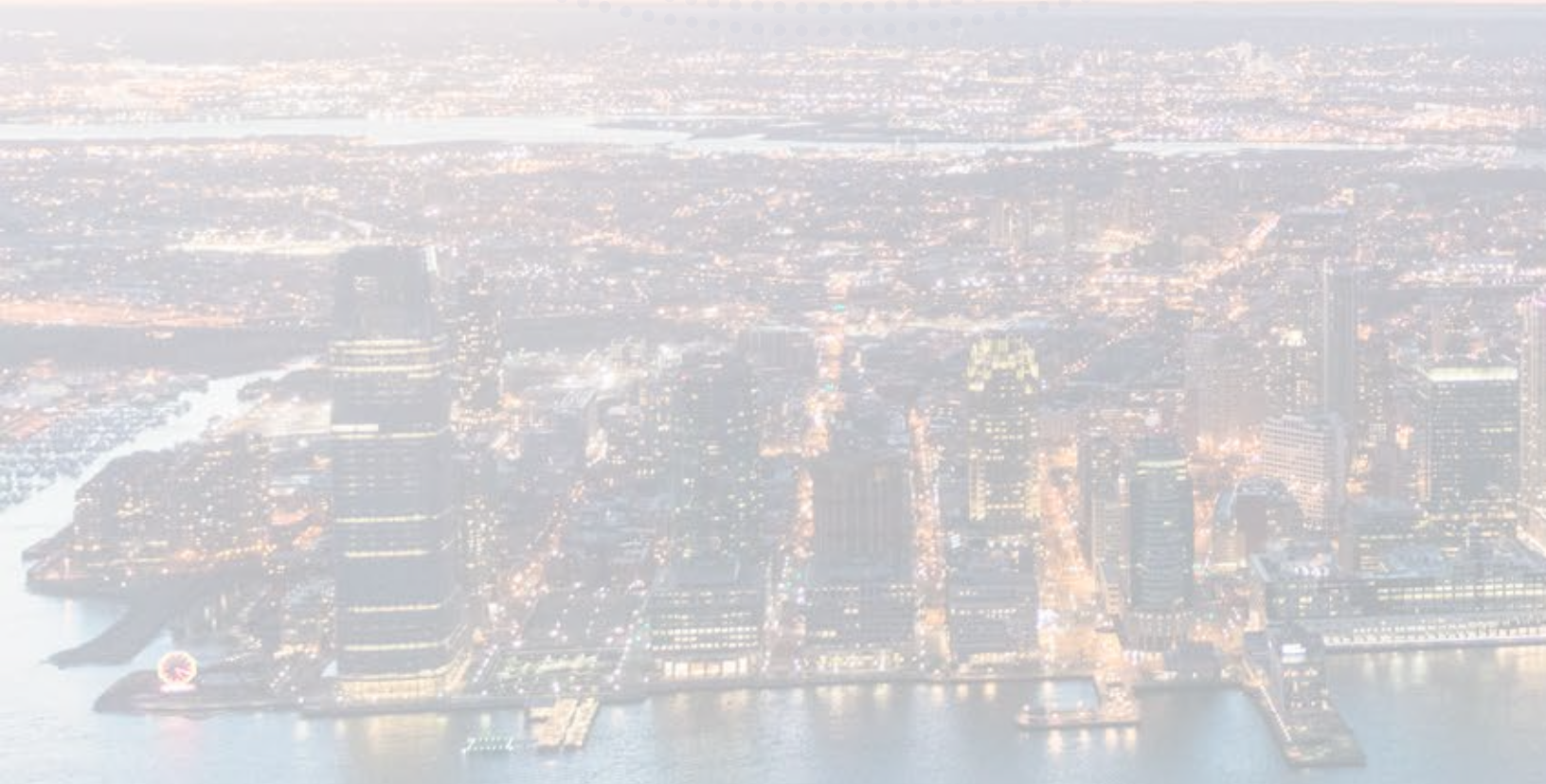
BOYS AND GIRLS CLUB

A partnership that grew even stronger in 2018 was with the Boys and Girls Club of Hudson County. SUEZ volunteered at Fred W Martin Center for the Arts Elementary School 41 during the holiday season to build gingerbread houses with the students during their holiday party. For many students, it was their time building gingerbread houses. Along with the annual contribution SUEZ makes to the Boys and Girls Club, it was important for our team to connect with the students and bring them some holiday spirit.

SUEZ Operations Supervisor Don Sheridan helps students build gingerbread houses.

SUEZ: A PROUD COMMUNITY PARTNER

In addition to volunteer hours and contributions, SUEZ has supported the City through the use of our water truck for special events. Some of these events included the JC Ward Tour, the Jersey City Freedom and Fireworks Festival, the Caribbean Festival and the Puerto Rican Festival. SUEZ is proud to support Jersey City and their commitment to its residents. We look forward to growing even stronger together in 2019.



mysuezwater.com
facebook.com/SUEZwaterNJ
twitter.com/SUEZwaterNJ

annual report 2018

SUEZ and Springfield Water & Sewer Commission Partnership
City of Springfield, MA

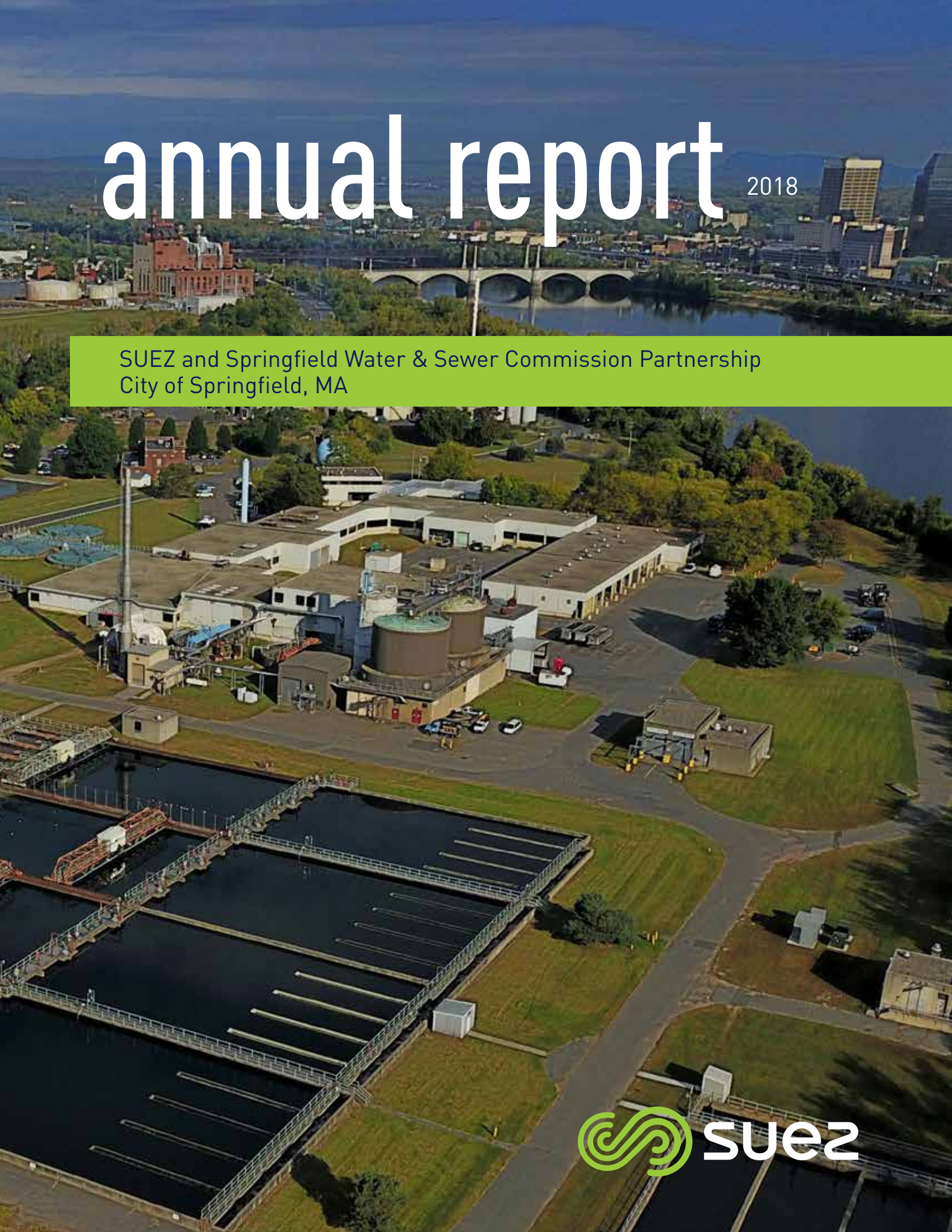


table of contents

Executive Summary

On July 1, 2018, SUEZ Water Environmental Services, Inc. (SUEZ) completed its 18th year of a 20-year partnership with the Water and Sewer Commission (SWSC). Approximately 1.3 billion gallons of wastewater per month underwent biological secondary treatment prior to being released into the Connecticut River.

In addition to operational activities and technical support, SUEZ played a role on behalf of the SWSC in the community, which included volunteer and donations to

2018 PERFORMANCE HIGHLIGHTS

In 2018, the facility continued to operate under a major process initiative which began in 2016 – maintaining an aerobic solids retention time (SRT) of 19 days. The SRT is a primary process control strategy for running activated sludge facilities. In general the lowest SRT that provides for adequate nitrogen oxidation will provide for the greatest hydraulic capacity and most use of electricity. The facility continued to accept into the secondary system beyond the design capacity of 134 MGD when possible without risking quality. In 2018 the facility experienced many high events from wet weather resulting in 5 secondary bypasses with all 4 online and 6 bypasses with only 3 online while 1 was down for maintenance. Another performance highlight of 2018 was nitrogen removal. The facility monthly average for total nitrogen (TN) was 4.99 mg/L, lower than the previous two years. The facility continued to use a HACH DR3900 spectrophotometer to run additional process control TN samples to tune the secondary process. The facility electrical use was 5,062,760 kWh below the Fixed Electricity Consumption Element of 24,015,000 kWh.

RESEARCH AND DEVELOPMENT/TECHNICAL SUPPORT

SUEZ continues to work with the SWSC to deliver high quality wastewater services to its customers. SUEZ provides additional value to the SWSC by providing research and recommendations, procurement initiatives, technical support and/or follow through on completion of capital projects at the wastewater treatment plant, two miles of the Connecticut River Interceptor (CRI).

These assets are operated and maintained by a with a combined total of more than 100 professional in the management of water and wastewater treatment facilities. To ensure that the facility is operating at optimum and properly maintained, SUEZ utilizes the Hach WIMS™ operations management system for process control and the MP2 Maintenance Management System for preventive maintenance and/or corrective action.

In 2018 SUEZ engineering and technical support personnel recommended, managed and started/completed 3 Additional Services Authorization (ASA) projects totaling $129,182. In addition, 6 SUEZ-funded CAPEX projects were recommended and completed, totaling $270,344. ASA and CAPEX projects started/completed in 2018 are listed below and were detailed in the 2018-2019 Capital Report issued to the SWSC.

ASAs (SWSC-funded)

- CSO Operation & Maintenance
- Indian Orchard Pump Station (IOPS) Septage Receiving Units Upgrade
- Telog Flow Meter Calibrations & Repairs

CAPEX/Major Repairs & Rehabilitation (SUEZ-funded)

- GBT #1 Overhaul
- Chlorine 5-Year Overhaul
- Turblex Blower Overhaul
- TOS Tank #1 Painting
- Secondary Bridge #1 Overhaul
- HVAC Replacement

LABORATORY

In 2018 SUEZ continued to operate and maintain the Massachusetts Department of Environmental Protection (MassDEP) (M-MA151) Laboratory at the Regional Wastewater Treatment Facility 365 days/year. In 2018, the laboratory went through a MADEP Laboratory Inspection with no maintaining its to perform in-house TSS, BOD, Total Residual Chlorine and pH examinations of the wastewater components.

The SUEZ laboratory has professional with 25 years of combined experience. John Colburn, laboratory director, holds a B.S. in biology, an associate's degree in environmental technology and a MA Grade 7 wastewater license with 23 years of laboratory experience. Matthew Nolen-Parkhouse, laboratory technician, holds a B.S. in chemical engineering and a MA Grade 7 wastewater license. He is currently pursuing a dual Master's degree in Engineering Management and Business Administration at Western New England University.

In 2018 the laboratory reported more than 2,100 National Pollutant Discharge Elimination System (NPDES) required tests and had zero missed samples. The lab also performed thousands of required process control analyses.

ENVIRONMENT

With a strong focus on environmental compliance, SUEZ successfully achieved all environmental compliance goals with the exception of one fecal coliform exceedance that occurred during a rain event when three out of

SUEZ was able to comply with state and federal regulations through preventive maintenance of existing

Treatment performance in 2018 for the National Association of Clean Water Agencies Silver Peak Performance A

SUEZ local project and area management worked closely with the Water and Sewer Commission and technical consultants to review and respond to proposed language and requirements in the draft NPDES astewater Treatment Facility.

HEALTH & SAFETY

SUEZ is committed to providing its employees with a comprehensive, environment, health and safety training program. 59 safety related work orders were created and 52 completed in 2018.

HUMAN RESOURCES

SUEZ has an experienced of and properly licensed operators who have successfully provided the SWSC with wastewater services over the past year. To maintain a high level of operational excellence, employees are provided with training and opportunities for career development. Long-time employee Mickey Nowak retired in 2018 with 40+ years of service. Mickey was replaced by Matthew LaPointe as Project Manager for the Spring facility. Matt comes over from the Gardner, MA project with over 17 years of experience in the water and wastewater industry. He has an associate's degree in Natural Resource Technology, holds a MA Grade 7 wastewater license and multiple water licenses.

COMMUNITY RELATIONS

Throughout its operating period, SUEZ continued to play an active role in the community. The World is Our Classroom (WIOC) program continued to educate graders throughout the City of s school system about the Bondi's Island Wastewater Treatment Plant with a total of 1,878 students visiting in 2018. SUEZ also continues to support the Pioneer Valley Riverfront Club's programs for youth rowing, environmental education and enhanced use of the Connecticut River waterfront. The participated in the Keep Beautiful community cleanup and Source to Sea Connecticut River cleanup. SUEZ displayed at the Science Museum for Earth Day and West Earth Day, and spoke at Holyoke Community College about the value of wastewater treatment.

SUEZ with the SWSC and their family members partnered as a team to participate in the annual Dragon Boat Race, which is held each summer on the Connecticut River in In celebration of 2018 'Imagine a Day Without Water', the SWSC tours of its drinking water and wastewater treatment plants to customers and members of the public.

CONCLUSION

For more than 18 years, SUEZ has been a part of the fabric of the community and values the ongoing partnership with the SWSC. Looking back on the success of the 2018 operating period, SUEZ looks forward to building upon this successful collaboration. SUEZ has the necessary tools and resources to meet and exceed the SWSC's expectations and will continue to make them available to the SWSC.

Introduction

In 2018, on behalf of the SWSC, SUEZ operated and maintained the Regional Wastewater Treatment Facility (SRWWTF), 25 sanitary pumping stations, seven stations and more than two miles of the Connecticut River Interceptor (CRI). These assets are operated and maintained with a that holds more than 100

- GBT #1 Overhaul – Major overhaul of GBT #1 Gravity Belt Thickener.
- Chlorine 5-Year Upgrade – The Chlorine facility
- 5-year overhaul included new piping/painting, and sanding/repainting concrete with sealed polyurethane enamel.
- A number of safety improvements were completed at the Chlorine facility including replacing chlorinator room doors with panic bar type emergency exit doors, upgrading emergency alarm lighting which provides color lights and audible alarms to between a chlorine leak and other alarm conditions, and installed new emergency eyewash showers with a tepid water system outside the chlorine building.

- Security improvements included design and installation of vehicle crash barriers outside the chlorine tank room and vehicle crash bollards at Power Centers around the treatment plant.
- Turblex Blower Overhaul – Overhaul of 3 Turblex blowers, including Class II inspection and service which included cleaning, replacing shims and o-rings, impeller balancing, etc.
- TOS Tank #1 Painting – Sandblasting, epoxy primer and painting of TOS tank #1.
- Secondary Bridge #1 Overhaul – Replacement of sludge blades, additional decking, cables and safety chains, and repair/replacement of support arms and festoon cable trolleys.
- HVAC Replacement – Procurement and installation of Trane condensing unit and associated piping.
- Rebuild – New fan and motor installed. Replaced inlet and outlet piping to fan, sealing with silicone. Velocity readings good.
- Power Supply Upgrade – High voltage cables for B-East line replaced. Contractor completed pulling additional wires to main high voltage switch gear and power centers 2-A and 2-B and completed all terminations in power centers.
- Stormwater Pump Replacement – Prior to installing a new submersible pump, Maintenance the layout of new piping to allow for the option of stormwater to be sent back to headworks to the treatment system, aside from discharged into the Connecticut River. New check vales and valves were installed with new pump.
- Centrifuge Feed Pumps BFP-07 and BFP-05 – Overhaul. Both of these duplex plunger pumps underwent full rebuild. Replaced jugs, pistons, eccentrics, connecting rods, check balls, check ball plates, packings, drive shafts and bearings.

STAFFING

The following table summarizes our project employees in 2018.

Position	# of Employees as of Dec. 31, 2018
Project Manager	1
Assistant Project Manager	1
Operations Superintendent	1
Senior Project Engineer	1
Administrative Coordinator	1
Receptionist	1
Senior Operators	5
Operators	12
Planner/Scheduler	1
Maintenance Supervisors	2
Mechanics	9
Electrician	1
Storekeeper	1
Chemist	1
Lab Technician	1
Total	39

In order to sustain a highly and competent workforce, SUEZ requires all operators to maintain a Massachusetts Grade IV Wastewater or higher. In addition, eight maintenance personnel have Wastewater or Collection System There are a total of 28 operations and maintenance personnel who hold New England Water Environment Association (NEWEA) Voluntary Collection System The operations and maintenance hold 32 Massachusetts Department of Public Safety hoisting licenses of various grades. Some of the other licenses held by the include Underground Storage Tank, NEWEA Voluntary Lab Analyst Pipeline Assessment, Commercial Driver's License, Massachusetts Water Distribution and Electrician.SUEZ supports employee development and career growth in various ways such as mentoring/ coaching sessions, training modules, cross-training, incentives and succession planning. Succession planning includes having Grade 7 Operators in place and encouraging employees to use educational incentives to obtain training and college degrees. The result is having trained, in place that are prepared to assume new roles as they become available.

To recognize employee performance, SUEZ implements incentive programs. One program is designed to recognize individuals who attain higher levels of in their area of discipline. Employees receive a incentive commensurate with the level of attained. Additionally, the Performance Recognition Program discretionary incentives to employees who assume duties above and beyond their normal work responsibilities for extended periods of time. This program has contributed to encouraging the

Many of our employees are members of the NEWEA and/or the Massachusetts Water Pollution Control Association, as well as NEWEA Young Professionals Committee.

Having highly trained and operators is very important to delivering a high level of operational performance. Beyond having competent operators, SUEZ also encourages from all departments to take relevant training

To celebrate and encourage employee educational accomplishments, SUEZ Tuition and Education Assistance program reimburses employees attending an accredited college/university. In 2018, several employees took take advantage of this program, majoring in work-related courses.

EMPLOYEE LICENSES AS OF 12/31/18

		Hoisting								CDL	Wastewater (WW)			Collections (CS)			Lab	W	WW	Underground Storage Tank (UST)		Elec
Employee	**Title**	**1C**	**1B**	**1A**	**2C**	**2B**	**2A**	**3A**	**4A**	**CDL**	**2**	**4**	**7**	**2**	**3**	**4**	**NEWEA 2**	**1D**	**PACP**	**A/B**	**C**	
Demarey, Ashley	Assistant Project Mgr.	X						X					X			X	X					
Parrish, Micheal	Superintendent												X			X						
Warren, Raymond	Scheduler/ Planner	X					X									X				X		
Gladkowski, John	Maint. Supervisor	X			X								X			X		X	X			
Orzechowski, Paul	I/C Supervisor		X				X					X				X						X
Colburn, John	Chemist												X									
Nolen-Parkhouse, Matthew	Lab Tech											X6				X	X					
Barry, William	Senior Operator												X			X						
Hill, James	Senior Operator												X			X						
Lamotte, Mark	Senior Operator												X			X						
Mock, Donald	Senior Operator	X			X			X					X			X	X					
Sapouckey, Robert	Senior Operator												X			X						
Barton, Roy	Operator							X				X5										
Caplette, Raymond	Operator	X						X		X		X										
Fox, Michael	Mechanic											X		X								
Gendron, Matthew	Operator											X				X						
Gervasini, Kevin	Operator											X										
Griffin, Joesph	Operator						X					X6		X								
Iwasinski, Dominick	Mechanic	X										X				X						
Kwiecien, Peter	Operator											X										
LaFleche, Robert	Mechanic	X										X6				X						
Larivee, Christopher	Operator										X			X								
Lord, Michael	Operator	X						X					X			X						
Marquez, Demetrio	Electrician																					X
Menard, Claude	Operator	X						X		X		X				X						
Morin, George	Mechanic		X		X			X				X		X								
O'Connor, Patrick	Storeroom Keeper		X											X							X	
Ruppert, Richard	Mechanic		X													X						
Schofield, Tyler	Operator											X										
Smith, Steven	Mechanic		X		X			X			X				X							
Willemain, Mark	Mechanic		X		X			X		X	X			X					X			
Wood, Jonathan	Mechanic													X								
Woznicki, Lawrence	Operator											X		X								
Wood, Jonathan	Mechanic													X								
Woznicki, Lawrence	Operator											X		X								

Environmental & Regulatory Compliance

PLANT FLOWS AND LOADINGS

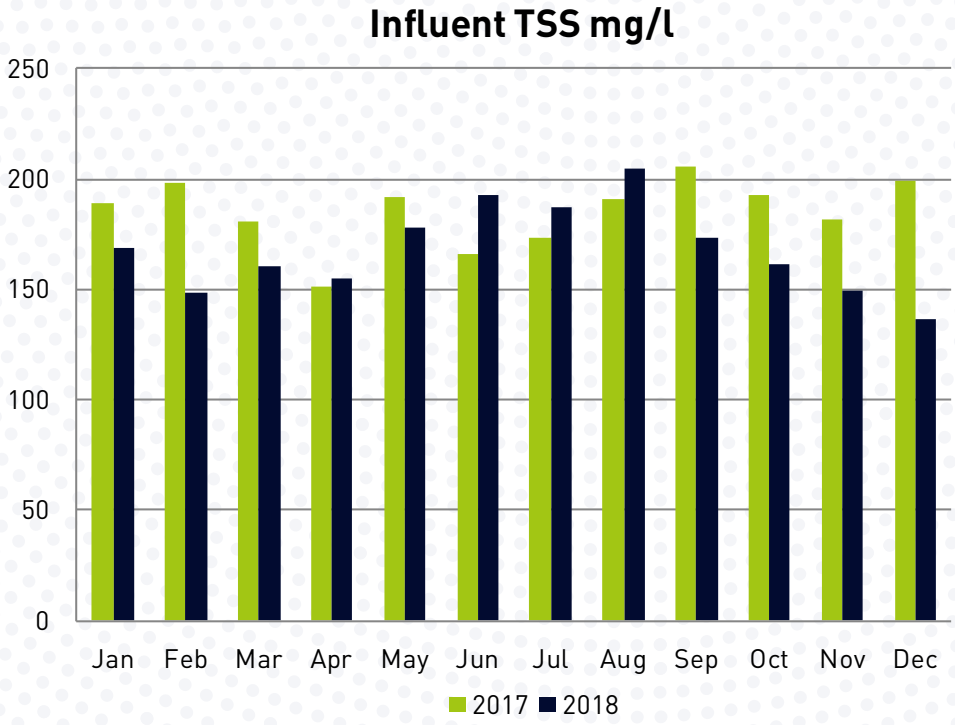
Influent/Effluent Flows, Loadings and Percent Removals

2018	FLOW (MG)				TOTAL SUSPENDED SOLIDS							
					Inf TSS (mg/L)			Eff TSS			Removed	TSS Removal
	Avg	Min	Max	Total	mg/L	lbs/day	lbs	mg/L	lbs/day	lbs	lbs	%
Jan	38	23	57	1,171	169	52,919	1,640,501	6	2,215	68,673	1,571,828	96.6
Feb	43	27	68	1,194	148	52,160	1,460,479	6	2,343	65,612	1,394,867	96.1
Mar	41	28	50	1,266	160	53,959	1,672,730	4	1,481	45,903	1,626,828	97.3
Apr	42	27	63	1,246	155	52,814	1,584,410	6	2,420	72,615	1,511,795	96.0
May	38	25	51	1,166	178	56,065	1,738,021	6	2,051	63,580	1,674,440	96.4
Jun	35	21	59	1,039	193	56,664	1,699,925	7	2,329	69,880	1,630,045	96.2
Jul	36	22	71	1,118	187	56,085	1,738,631	4	1,397	43,311	1,695,320	97.6
Aug	41	25	77	1,277	205	70,870	2,196,982	5	1,612	49,987	2,146,995	97.8
Sep	42	26	76	1,272	173	61,235	1,837,060	7	2,762	82,858	1,754,203	96.2
Oct	46	32	67	1,434	161	61,684	1,912,210	7	3,089	95,774	1,816,436	95.4
Nov	59	43	85	1,762	149	72,549	2,176,456	8	3,758	112,735	2,063,720	94.9
Dec	51	37	70	1,588	136	57,978	1,797,326	5	2,487	77,092	1,720,234	96.4
Avg	**43**	**28**	**66**	**1,295**	**168**	**58,749**	**1,787,894**	**6**	**2,329**	**70,668**	**1,717,226**	**96.5**
Total				**15,534**			**21,454,731**			**848,020**		

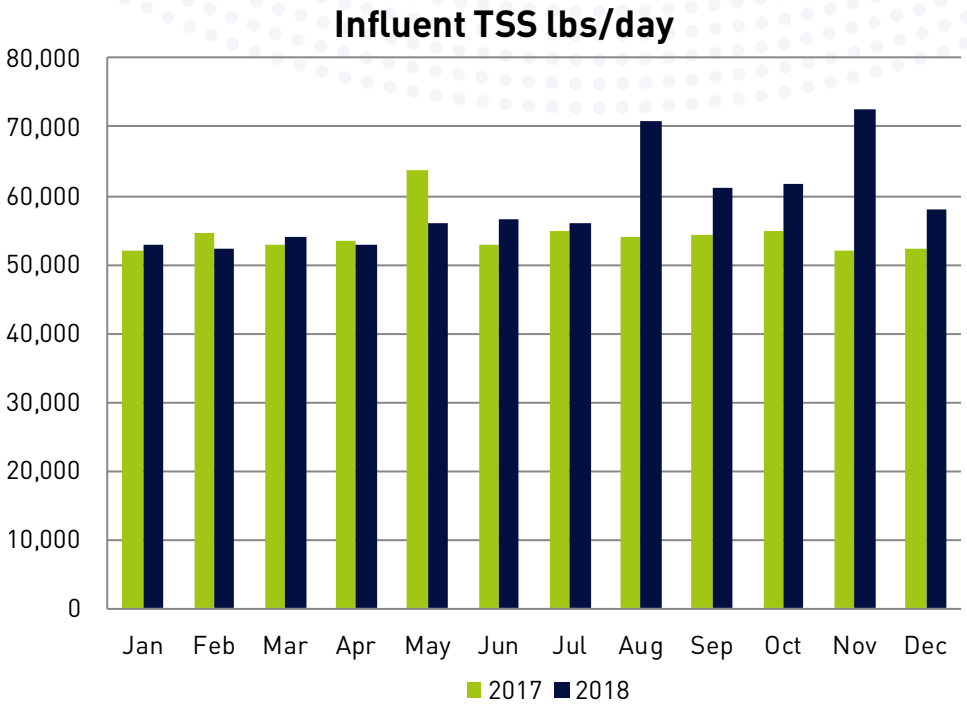
Total of treated wastewater in 2018 increased by over 2.5 billion gallons compared to 2017 due to numerous wet weather events.

2018	BIOCHEMICAL OXYGEN DEMAND							
	Inf BOD			Eff BOD			Removed	BOD Removal
	mg/L	lbs/day	lbs	mg/L	lbs/day	lbs	lbs	%
Jan	255	78,117	2,421,631	9	3,253	100,854	2,320,777	96.4
Feb	224	77,226	2,162,338	7	2,956	82,780	2,079,558	96.8
Mar	233	78,806	2,442,987	6	2,023	62,707	2,380,280	97.6
Apr	230	77,896	2,336,876	7	2,876	86,282	2,250,594	96.8
May	217	67,837	2,102,938	7	2,292	71,053	2,031,885	96.8
Jun	272	77,800	2,334,004	8	2,434	73,008	2,260,996	97.2
Jul	235	69,793	2,163,577	6	1,866	57,847	2,105,730	97.5
Aug	224	76,431	2,369,352	5	1,886	58,468	2,310,884	97.7
Sep	208	72,249	2,167,459	7	3,037	91,105	2,076,354	96.5
Oct	187	70,792	2,194,558	7	3,065	95,021	2,099,537	96.1
Nov	162	78,466	2,353,974	8	3,813	114,392	2,239,582	95.3
Dec	196	82,315	2,551,753	7	3,026	93,804	2,457,949	96.7
Avg	**220**	**75,644**	**2,300,121**	**7**	**2,711**	**82,277**	**2,217,844**	**96.8**
Total			**27,601,447**			**987,321**	**26,614,126**	

TSS and BOD Loading.



A TSS concentration was 168 mg/L in 2018 compared to 185 mg/L in 2017.

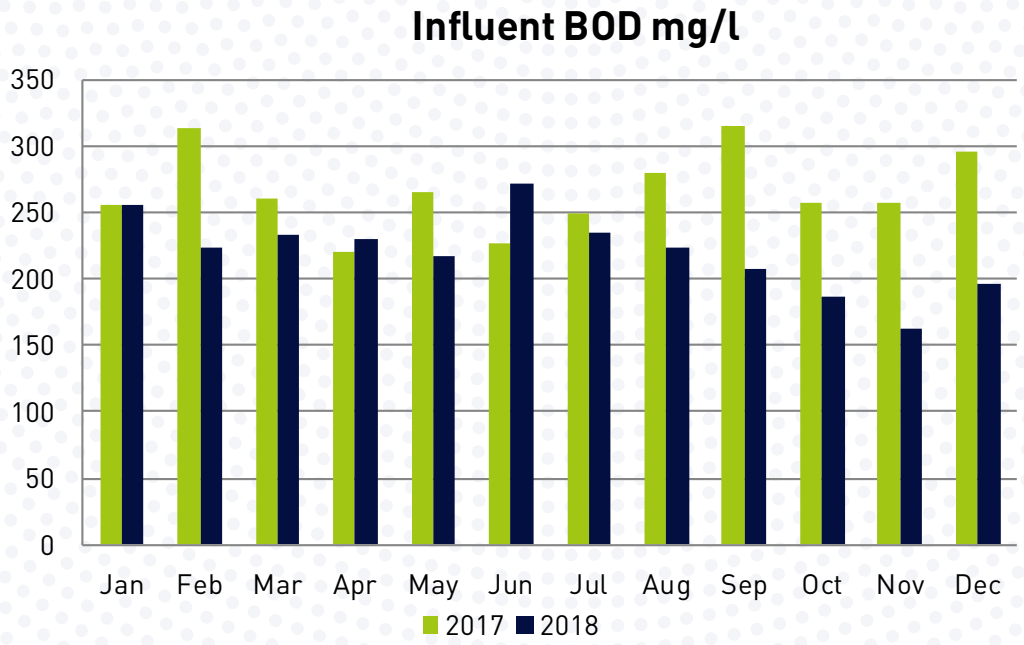


A TSS loading was 58,749 lbs in 2018 compared to 54,297 lbs in 2017.

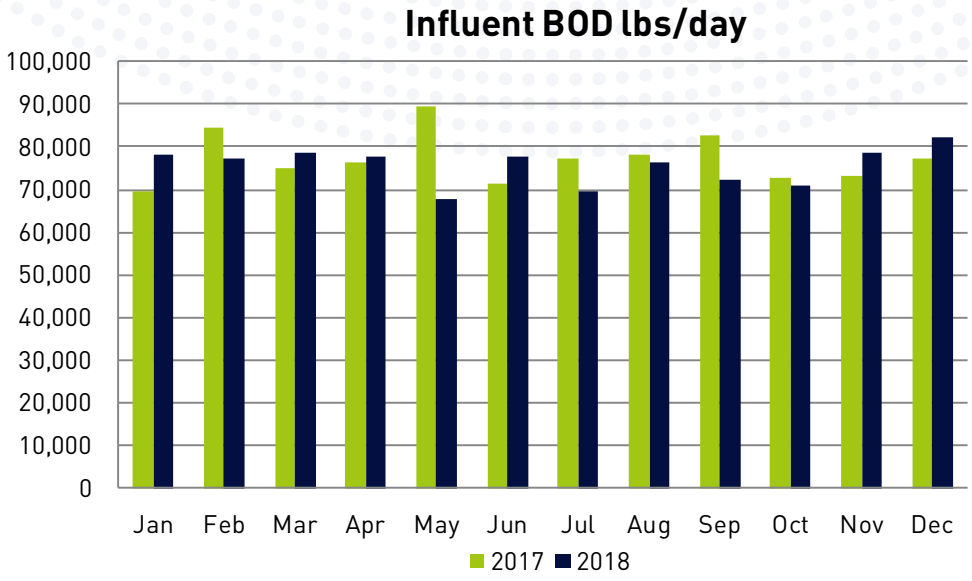
The average daily TSS concentration was 9% less in 2018 compared to 2017 but

.

Beginning in June, month to month TSS loading in 2018 was higher than in 2017 with loading higgher than the prior year for the the period August throuh December 2018.



A in 2018 compared to 266 mg/L in 2017.



A

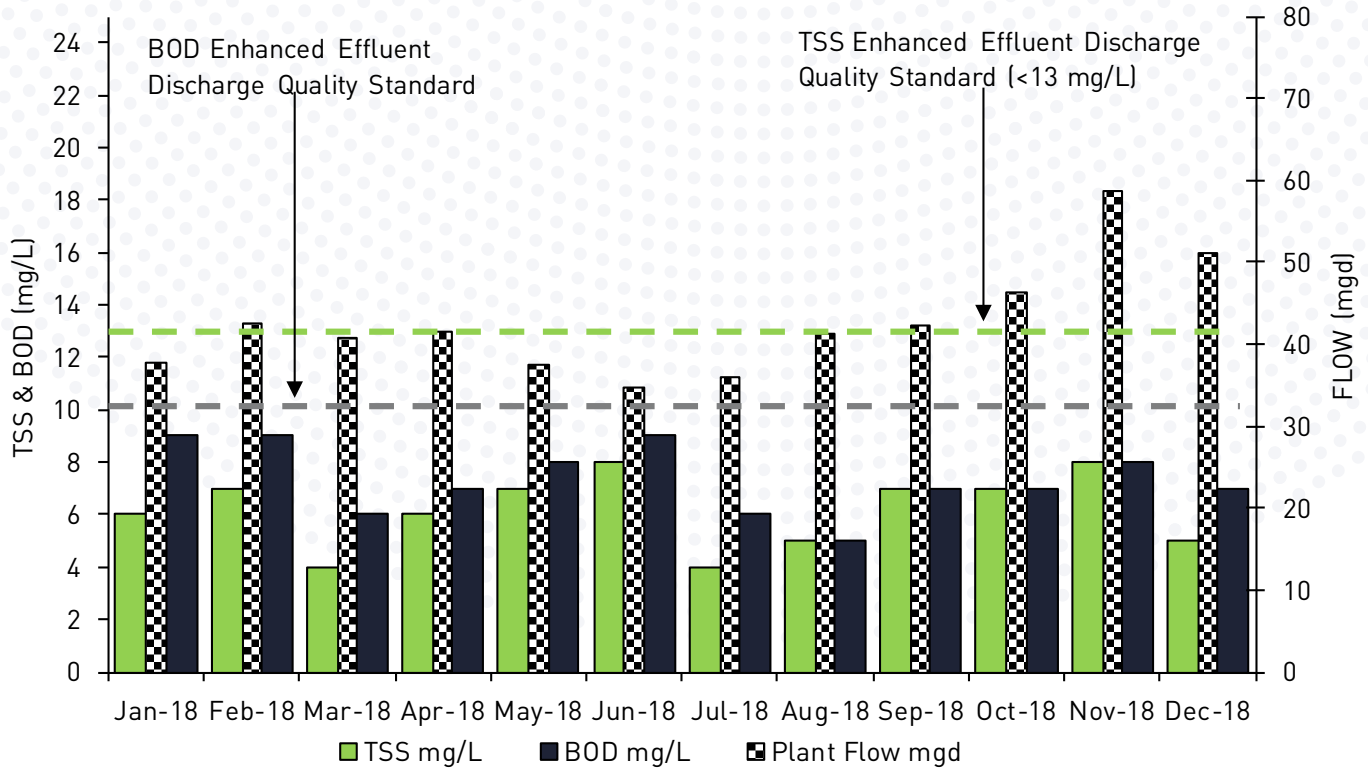
The average daily BOD concentration was 17% less in 2018 compared to 2017 but total

.

TSS, BOD and Plant Flow

The following table and graph summarize TSS, BOD and Plant Flow data for 2018.

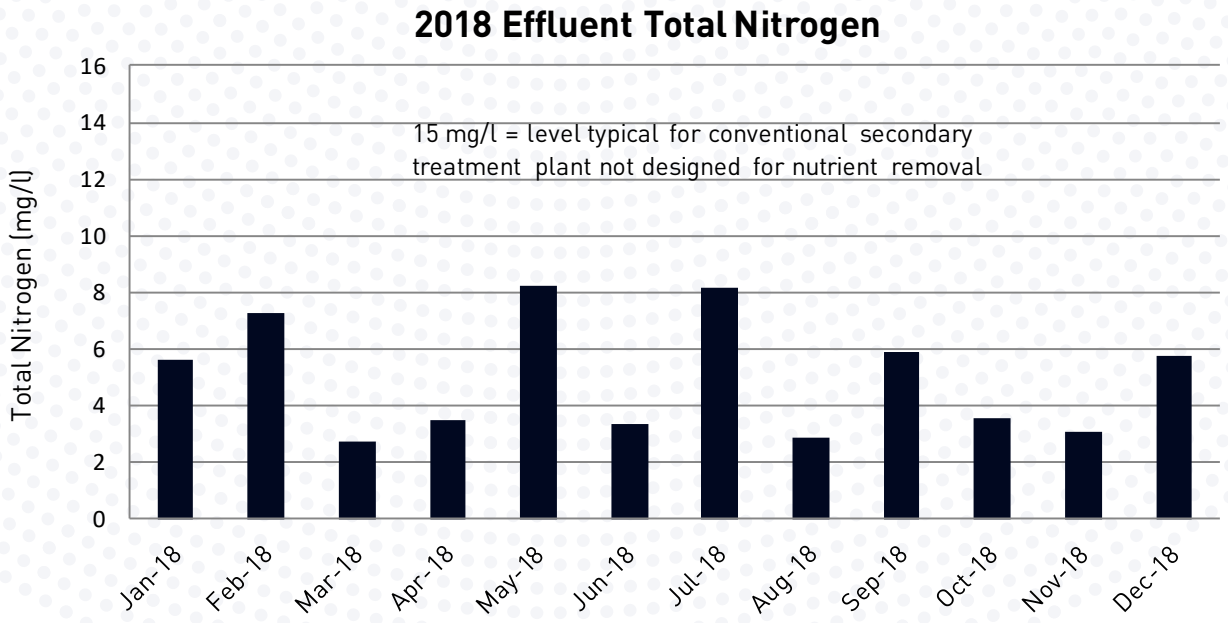
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Plant Flow (MGD)	37.8	42.6	40.8	41.5	37.6	34.6	36.1	41.2	42.4	46.3	58.7	51.2
TSS (mg/L)	6	7	4	6	7	8	4	5	7	7	8	5
BOD mg/L)	9	9	6	7	8	9	6	5	7	7	8	7



The enhanced standards for TSS and BOD were met for 12 months in 2018.

Nitrogen Removal

Although the SRWTF is a conventional secondary treatment process facility that is not designed for nutrient removal and does not have discharge limits for nitrogen, SUEZ operates the facility by using a process control approach that maximizes nitrogen removal. The chart below shows actual monthly total nitrogen levels and the levels that would be expected for a conventional activated sludge secondary treatment process facility.



Average total nitrogen concentration was 4.99 mg/L in 2018 compared to 6.96 mg/L in 2017. The facility continues to run at low TN levels through process optimization and additional process control testing.

WET WEATHER EVENTS

The SRWTF receives from a combined wastewater collection system and is subject to wide swings in the volume of wastewater processed during wet weather conditions. SUEZ has developed and uses comprehensive wet weather management procedures to meet Nine Minimum Controls objectives for maximizing through the system while sustaining excellent treatment performance. These procedures incorporate advanced strategies, such as State Point Analysis, to optimize operation of the secondary automated sludge blanket monitoring instruments and conversion to step feed process control. In September of 2015 the facility lowered the operating SRT from approximately 30 days to 19 days. This process change increased the hydraulic loading capacity of the secondary system. This change then resulted in reducing the secondary bypasses from 19 in 2015 to 1 in 2016 and 2017, and 11 in 2018. Flows in 2018 were 20% higher than 2017 with multiple wet .

Wet Weather Bypass Event Summary						
Date	Secondary Bypass			Influent Bypass		
	Duration		Volume	Duration		Volume
	hour	minute	MG	hour	minute	MG
01/12-13/18			0.000	1	44	0.801
01/23/18			0.000		25	0.181
02/11/18			0.000		24	0.112
04/16/18		50	1.736		23	0.099
06/18/18			0.000	1	3	0.662
06/28/18			0.000		22	0.238
07/06/18			0.000		25	0.102
07/17/18		22	0.764	1	47	1.258
08/02/18			0.000		43	0.373
08/04/18				2	4	2.055
08/07/18			0.000		46	0.580
08/14/18			0.000		22	0.057
08/18/18			0.000	1	25	1.355
09/10/18		7	0.243			
09/18/18	2	38	5.486	1	43	1.502
09/25/18	1	16	2.639			
09/26/18		40	1.389	1	5	0.723
10/2-3/18	3	13	6.701	4	52	4.782
10/11/18	2	22	4.931	1	10	1.348
11/03/18	4	45	9.896		9	0.041
12/21/18	3	24	7.083	1	40	1.311
12/31/18	1	22	2.847			
Total			**43.715**			**17.580**

Wet Weather Bypass Event Summary						
Date	Rainfall	Plant Flows				
	Volume	Total Plant	Plant Minimum	Plant Maximum	Plant Bypass Rate	Peak System
	Inches	MGD	MGD	MG	MGD	MGD
01/12-13/18	1.98	81.76	22.76	185.58	11.09	196.67
		61.35	38.9	178.56		
01/23/18	0.96	62.75	23.97	179.45	10.43	189.88
02/11/18	1.20	84.73	41.29	177.62	6.72	184.34
04/16/18	1.90	77.68	24.03	184.61	6.20	190.81
06/18/18	1.71	43.38	18.76	181.46	15.13	196.59
06/28/18	1.30	66.87	23.53	180.65	15.58	196.23
07/06/18	0.74	42.34	22.86	181.39	5.88	187.27
07/17/18	1.79	56.6	18.38	181.75	16.93	198.68
08/02/18	0.81	46.40	22.12	183.85	12.49	196.34
08/04/18	2.06	64.31	23.59	181.46	23.86	205.32
08/07/18		53.76	25.67	197.14	18.16	215.30
08/14/18	0.45	49.47	23.83	174.59	3.73	178.32
08/18/18		64.36	28.59	184.65	22.96	207.61
09/10/18	1.58	55.95	21.53	133.02		
09/18/18	2.11	72.97	29.53	184.88	21.00	205.88
09/25/18	1.97	65.67	24.87	161		
09/26/18	1.12	53.53	33.73	188.68	16.02	204.70
10/2-3/18	2.72	68.7	46.42	172.77	23.58	196.35
10/11/18	1.49	63.73	30.3	181.67	27.73	209.40
11/03/18	2.22	90.66	53.24	181.12	6.56	187.68
12/21/18	2.44	95.52	34.08	181.38	18.88	200.26
12/31/18	0.74	57.51	34.76	143.76		
Total	**32.31**					

Summary of Flow Statistics for 2017 and 2018 are shown in the following table. The number of wet weather

Summary of Flow Statistics		
Flow Statistics	**2017**	**2018**
Average Daily Flow (MGD)	32.6	42.6
Total Flow Processed (MG)	11,896.1	15,534.1
Total Flow on Significant Wet Weather Days (MG)	717.9	1,480.0
Total Significant Wet Weather Days	13	23
Total Dry Weather Flow (MG)	11,178.2	14,054.1
Peak Wet Weather System Flow – Instantaneous (MGD)	262.1	215.3
Ratio Peak Wet Weather to Average Daily Flow	8.1	5.1

SUMMARY OF PERMIT ISSUES

NPDES Permit No. 0101613

The facility experienced one permit exceedance in 2018. During a wet weather event, the facility experienced a fecal coliform exceedance. The facility was receiving 182 MG of at the time the sample was collected. Only 3 of the 4 secondary rs were online at the time due to maintenance. All other permit parameters were met for the year.

NPDES Permit No. MA 010331

There were two Sanitary Sewer (SSO) events during 2018. There were no dry weather (DWO) at CSOs in 2018.

SSOs at Pump Stations			
Location	**Date**	**Est. Volume (gals)**	**Cause**
Indian Orchard Pump Station	7/17/18	314,348	Heavy rain event (1.79" rainfall)
Indian Orchard Pump Station	9/26/18	90,750	Heavy rain event (1.12" rainfall)

REGULATORY AGENCY CORRESPONDENCE AND INSPECTIONS

In accordance with Section 6.14A of the Service Agreement with the SWSC, SUEZ submitted all notices, laboratory tests/reports and all other reports with all government bodies via Mail. The SWSC received a printed copy of each report and were also included in the Monthly Report for occurrences taking place during the reporting month. Below is a list of all regulatory documents submitted for occurrences that took place in 2017/2018.

Date (letter)	Location of Event	Date (Occurrence)	Description
01/12/18	WWTP	2017	Annual Sludge Disposal Report 2017
01/16/18	WWTP	1/12 & 1/13/2018	Influent Bypass 1/12 & 1/13/18
01/24/18	WWTP	01/23/18	Influent Bypass 1/23/18
01/24/18	Pump Stations	2017	Annual Pump Station Report 2017
02/07/18	WWTP	Jan 2018	DMR - January 2018
02/05/18	WWTP	2018	Stage I Vapor System Compliance Testing
02/12/18	WWTP	02/11/18	Influent Bypass 2/11/18
02/22/18	WWTP	2017	Tier II Reporting 2017 - Emergency & Hazardous Chemical Inventory
03/07/18	WWTP	Feb 2018	DMR - February 2018
03/29/18	WWTP	03/29/18	WWTP 11/01/16 USEPA Inspection Follow-up Action Plan Q1 2018
04/09/18	WWTP	Mar 2018	DMR - March 2018 & Q1 Toxicity Data
04/17/18	WWTP	04/16/18	Secondary & Influent Bypasses 4/16/18
05/09/18	WWTP	Apr 2018	DMR - April 2018
05/08/18	WWTP	2017	NACWA 2017 Peak Performance Award Application
06/07/18	WWTP	May 2018	DMR - May 2018 & April 2018 Resubmittal
02/19/19	WWTP	06/18/18	Influent Bypass 6/18/18 (note: called in 6/18/18)
06/29/18	WWTP	06/28/18	Influent Bypass 6/29/18
07/09/18	WWTP	Jun 2018	DMR - June 2018 & Q2 Toxicity Data
07/09/18	WWTP	07/06/18	Influent Bypass 7/6/2018
07/18/18	WWTP	07/17/18	Secondary & Influent Bypasses 7/17/18

Date (letter)	Location of Event	Date (Occurrence)	Description
07/18/18	IOPS	07/17/18	Sanitary Sewer Overflow (SSO) at IOPS 7/17/18
08/07/18	WWTP	Jul 2018	DMR - July 2018
08/03/18	WWTP	08/02/18	Influent Bypass 8/2/2018
08/06/18	WWTP	08/04/18	Influent Bypass 8/4/2018
08/08/18	WWTP	08/07/18	Influent Bypass 8/7/18
08/17/18	WWTP	08/14/18	Influent Bypass 8/14/18
08/19/18	WWTP	08/18/18	Influent Bypass 8/18/18
08/22/18	WWTP	08/22/18	DMR-QA Study 38
09/07/18	WWTP	Aug 2018	DMR - August 2018
09/11/18	WWTP	09/10/18	Secondary Bypass 9/10/18
09/19/18	WWTP	09/18/18	Secondary & Influent Bypasses 9/18/18
09/20/18	WWTP	09/18/18	Exceedance of Fecal Coliform Bacteria Discharge 9/18/18
09/26/18	WWTP	09/25/18	Secondary Bypass 9/25/18
09/27/18	WWTP	09/26/18	Secondary & Influent Bypasses 9/26/18
10/01/18	IOPS	09/26/18	Sanitary Sewer Overflow (SSO) at IOPS 9/26/18
10/10/18	WWTP	Sep 2018	DMR - Sep 2018, Q3 Toxicity Data & Annual Storm Water Report
10/01/18	WWTP	2016-2018	Settlement of EPA Violation, Docket No. CAA-01-2018-0065
10/05/18	WWTP	10/2/18 & 10/3/18	Secondary & Influent Bypasses 10/2 & 10/3/18
10/12/18	WWTP	10/11/18	Secondary & Influent Bypasses 10/11/18
11/08/18	WWTP	Oct 2018	DMR - October 2018
11/05/18	WWTP	11/03/18	Secondary & Influent Bypasses 11/03/18
10/22/18	WWTP	2018	UST & AG Storage Tank Permit Renewals
10/22/18	WWTP	2018	Annual Fire Permit for SWSC Treatment Plant
11/02/18	NA	2018	Annual Chlorination System Report 2018
12/07/18	WWTP	Nov 2018	DMR - November 2018
12/19/18	WWTP	2018	Application for Elevator 6-F-15 Annual Safety Test
12/21/18	WWTP	2018	Payment for Certificates of Boiler Inspections
12/24/18	WWTP	12/21/18	Secondary & Influent Bypasses 12/21/18
12/24/18	WWTP	2018	Annual Alarm Report
01/02/19	WWTP	12/31/18	Secondary Bypass 12/31/18
01/08/19	WWTP	Dec 2018	DMR - December 2018 & Q4 Toxicity Data
01/11/19	IOPS	09/26/18	Follow-up to 9/26/18 SSO at IOPS

Regulatory inspections that took place in 2018 are listed below.

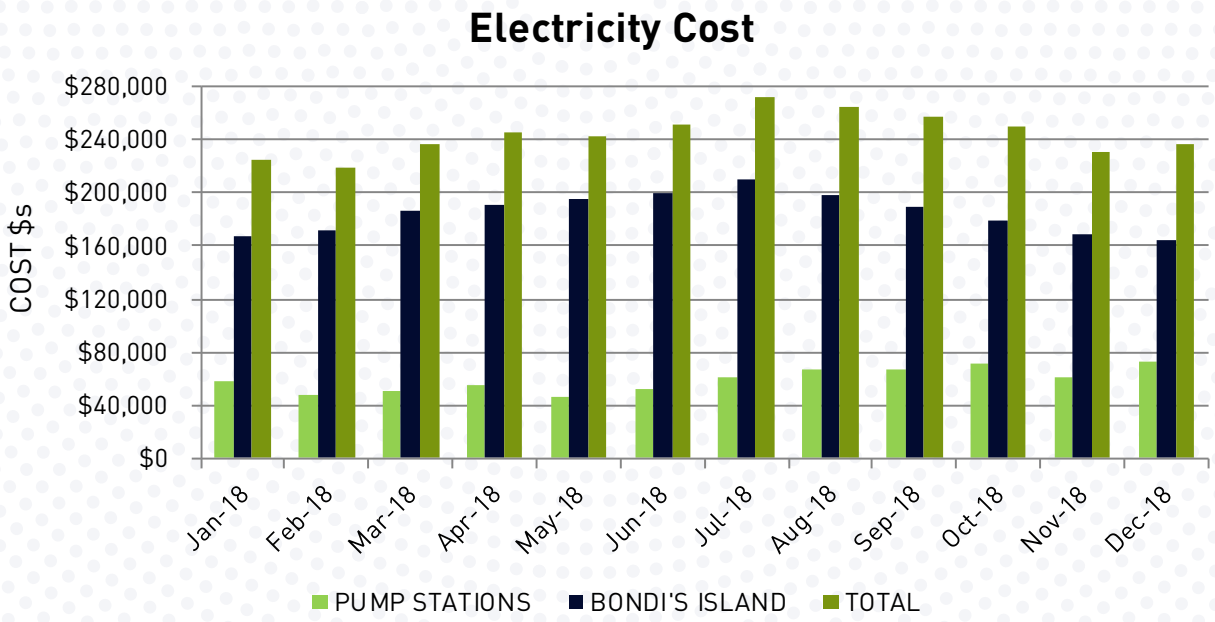
Location of Event	Date (Occurrence)	Description
Pumps Stations & CSOs	09/21/18	The DEP inspected several Springfield pump stations and Combined Sewer Overflow discharge structures located in the City of Springfield.
Connecticut River Levy (East side) & Flood Stations	09/21/18	The Army Corps of Engineers inspected the Levy flood walls, toe drains and flood stations along the east side of the Connecticut River .
SWWTP Laboratory	12/11/18	The Department of Environmental Protection inspected SUEZ's certified laboratory at the Springfield Regional Wastewater Treatment Plant.

ELECTRICITY

Electricity costs for 2018 are summarized in the table below and the graph on the next page. The average cost for power in 2018 was $0.155 per kWh. Total electrical power used in 2018 was 18,952,240 kWh which is 5,062,760 kWh less than the contract baseline of 24,015,000 kWh.

2018 Electricity Costs

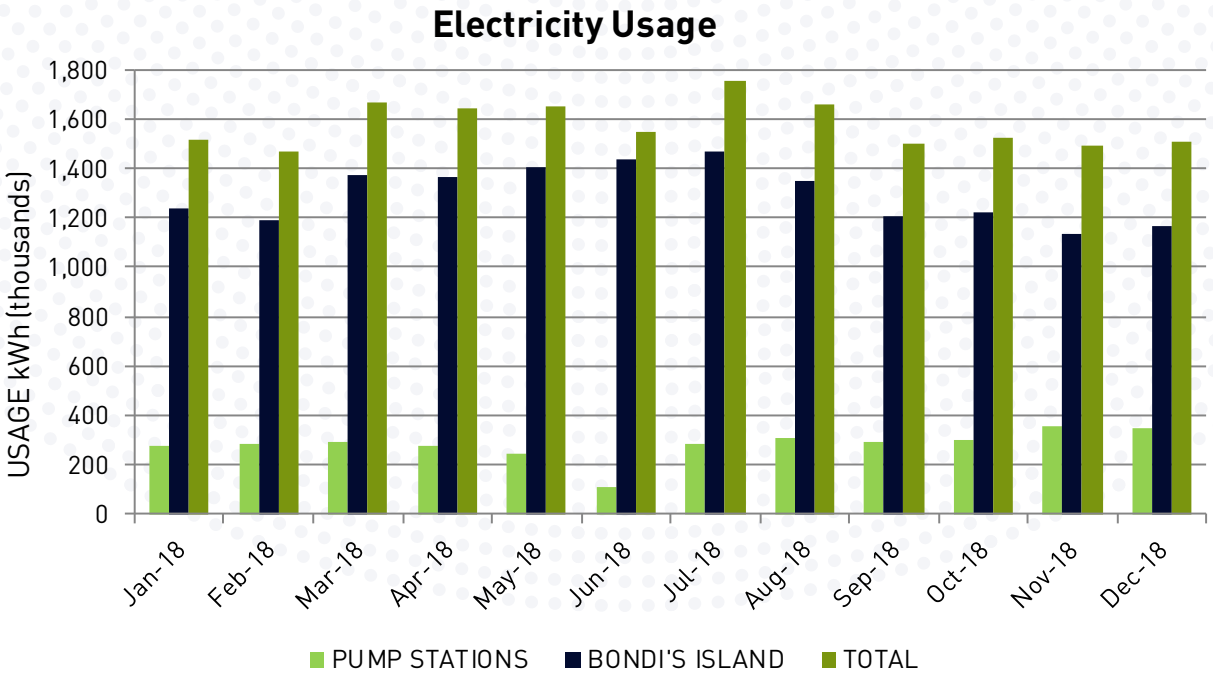
Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Undine	$48	$56	$55	$52	$42	$42	$43	$44	$46	$44	$47	$43	$562
Wilbraham	$68	$64	$62	$65	$56	$47	$40	$40	$41	$40	$60	$56	$638
Clinton	$131	$118	$129	$93	$63	$58	$52	$42	$50	$34	$38	$53	$864
W. Columbus	$90	$84	$81	$118	$83	$52	$47	$46	$63	$57	$48	$135	$904
Park	$36	$36	$51	$38	$44	$42	$33	$34	$34	$37	$33	$38	$457
Carew	$781	$768	$677	$635	$445	$467	$470	$542	$550	$511	$646	$859	$7,351
York	$8,045	$9,116	$9,848	$9,896	$9,901	$9,072	$9,647	$10,668	$10,355	$13,143	$11,842	$17,179	$128,712
Lyn	$203	$242	$245	$229	$135	$172	$220	$285	$147	$281	$221	$213	$2,592
Lake	$624	$658	$605	$656	$428	$653	$802	$514	$543	$764	$662	$1,594	$8,503
Berkshire	$691	$707	$764	$863	$544	$545	$440	$575	$531	$752	$1,187	$1,062	$8,662
Normandy	$38	$44	$41	$38	$36	$37	$41	$44	$51	$43	$43	$57	$514
Randall	$42	$40	$39	$39	$38	$38	$38	$38	$38	$40	$41	$45	$476
Avocado	$1,256	$1,007	$450	$264	$96	$71	$30	$30	$74	$30	$346	$750	$4,405
Washburn	$1,846	$1,984	$2,063	$2,020	$1,927	$1,877	$2,374	$2,009	$2,769	$2,763	$2,364	$3,312	$27,309
Barney	$107	$118	$155	$146	$105	$119	$131	$53	$82	$131	$104	$96	$1,347
Buena Vista	$39	$39	$39	$40	$38	$38	$39	$39	$40	$39	$40	$40	$470
Tiffany	$938	$1,027	$1,245	$1,280	$984	$1,067	$831	$933	$822	$942	$1,349	$1,647	$13,063
Liberty	$1,777	$2,056	$1,727	$1,593	$1,757	$1,432	$1,104	$1,228	$1,080	$1,335	$2,111	$2,280	$19,479
Canton	$48	$55	$56	$60	$68	$72	$70	$66	$65	$92	$92	$97	$841
Dickinson	$1,107	$1,142	$1,087	$1,186	$948	$961	$875	$1,070	$860	$1,110	$1,001	$1,187	$12,533
Allen	$165	$150	$196	$188	$144	$138	$68	$83	$76	$72	$132	$88	$1,500
Tamarack	$38	$41	$42	$43	$41	$40	$39	$40	$41	$45	$53	$47	$509
Indian Leap	$45	$37	$38	$55	$52	$45	$40	$39	$40	$40	$40	$40	$513
Bevier	$18	$18	$18	$18	$18	$18	$18	$15	$18	$18	$18	$18	$209
Mill	$1,115	$1,078	$1,006	$978	$901	$825	$828	$780	$774	$850	$850	$1,387	$11,373
Ryan	$34	$35	$44	$37	$52	$38	$42	$36	$37	$38	$42	$40	$473
Rowland	$177	$250	$308	$190	$375	$375	-$117	$30	$30	$30	$30	$30	$1,709
Glenmore	$49	$60	$43	$43	$49	$47	$56	$49	$45	$43	$43	$47	$573
Union	$42	$146	$188	$194	$80	$67	$50	$33	$76	$69	$34	$72	$1,052
West	$31	$32	$32	$32	$41	$31	$45	$43	$31	$32	$34	$31	$415
Grochmal	$38,156	$26,444	$29,447	$33,863	$26,940	$33,220	$42,650	$47,765	$48,194	$48,075	$37,494	$39,777	$452,025
PUMP STATIONS	$57,784	$47,652	$50,781	$54,950	$46,434	$51,706	$61,046	$67,212	$67,603	$71,503	$61,046	$72,318	$710,033
BONDI'S ISLAND	$166,752	$170,980	$185,660	$190,872	$195,738	$199,898	$210,370	$197,825	$189,601	$178,424	$169,354	$163,876	$2,219,350
TOTAL COST	$224,535	$218,631	$236,441	$245,822	$242,172	$251,604	$271,415	$265,037	$257,204	$249,927	$230,400	$236,194	$2,929,383



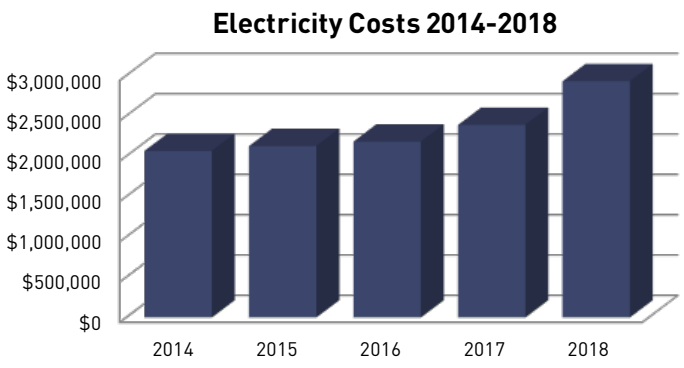
Electricity usage for 2018 is summarized in the table below and the graph on the following page.

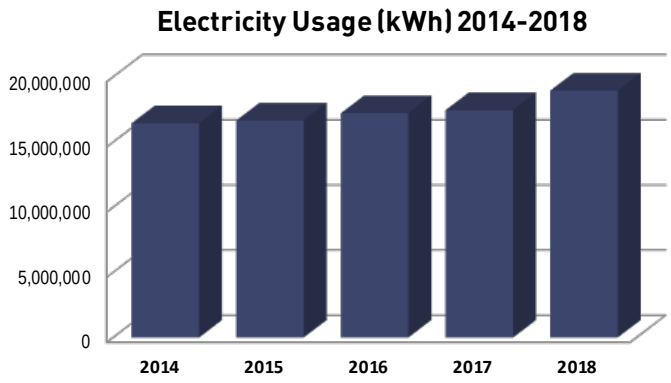
2018 Electricity Usage (kWh)													
Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Undine	159	201	203	176	98	94	99	104	117	109	133	98	1,591
Wilbraham	329	264	254	281	207	132	78	74	80	75	108	199	2,081
Clinton	678	591	584	370	66	28	45	30	28	32	62	128	2,642
W. Columbus	524	305	270	441	163	181	128	125	254	135	136	396	3,058
Park	51	51	168	66	113	95	24	28	31	50	25	46	748
Carew	5,085	4,383	4,333	3,669	2,475	2,576	2,368	2,782	2,382	2,445	3,178	4,508	40,184
York	44,880	52,240	55,520	56,960	57,600	50,640	54,480	60,080	58,000	74,160	67,920	79,520	712,000
Lyn	495	435	861	605	511	527	571	493	424	645	519	586	6,672
Lake	4,068	3,952	3,889	4,037	2,606	3,062	3,322	2,824	2,994	3,423	3,616	10,014	47,807
Berkshire	4,300	4,290	4,640	4,700	3,140	2,410	2,450	3,100	3,020	3,770	5,830	6,530	48,180
Normandy	68	111	89	64	52	53	83	111	160	97	104	150	1,142
Randall	107	76	70	71	64	59	64	62	59	75	82	118	907
Avocado	3,840	3,200	1,600	1,280	320	320	0	0	320	320	640	2,240	14,080
Washburn	9,600	9,792	10,368	10,176	9,792	9,024	9,216	9,984	10,560	12,096	13,248	15,168	129,024
Barney	314	369	333	402	270	310	269	173	197	310	254	381	3,582
Buena Vista	76	71	69	79	66	65	71	68	71	68	75	78	857
Tiffany	6,143	5,992	7,238	7,583	5,537	4,356	3,755	3,308	3,449	5,041	7,600	9,333	69,335
Liberty	9,797	10,748	10,779	9,170	9,235	6,952	5,524	6,456	5,972	7,856	13,004	14,058	109,551
Canton	154	200	210	242	237	264	241	275	256	404	480	459	3,422
Dickinson	6,685	6,575	6,067	6,831	850	5,340	5,301	5,758	5,041	6,250	5,933	6,986	67,617
Allen	666	683	867	736	519	583	230	407	336	320	472	383	6,202
Tamarack	67	90	98	103	88	76	67	77	80	115	176	131	1,168
Indian Leap	132	58	67	203	179	115	79	72	75	76	74	77	1,207
Bevier	0	0	0	0	0	0	0	0	0	0	0	0	0
Mill	8,190	7,259	6,405	6,423	5,741	5,531	5,475	5,053	5,005	5,151	5,133	6,629	71,995
Ryan	34	36	111	54	174	63	89	49	50	62	90	74	886
Rowland	1,152	1,536	1,920	1,152	1,152	2,304	384	0	0	0	0	0	9,600
Glenmore	162	238	108	105	155	131	199	144	110	95	98	130	1,675

2018 Electricity Usage (kWh)													
Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Union	38	548	911	983	267	28	29	26	332	103	33	51	3,349
West	8	12	16	19	88	7	119	98	7	16	31	8	429
Grochmal	170,976	168,849	175,121	162,631	145,048	16,484	186,900	205,800	195,300	176,400	225,113	187,702	2,016,324
PUMP STATIONS	278,778	283,155	293,169	279,612	246,813	111,810	281,660	307,561	294,710	299,699	354,167	346,181	3,377,315
BONDI'S ISLAND	1,241,856	1,187,760	1,375,920	1,368,864	1,404,144	1,437,072	1,472,352	1,352,400	1,206,576	1,225,392	1,138,368	1,164,220	15,574,924
TOTAL USAGE	1,520,634	1,470,915	1,669,089	1,648,476	1,650,957	1,548,882	1,754,012	1,659,961	1,501,286	1,525,091	1,492,535	1,510,401	18,952,240



Electricity costs and usage at the SRWWTF are compared for 2014 through 2018 and are shown in the graphs below.



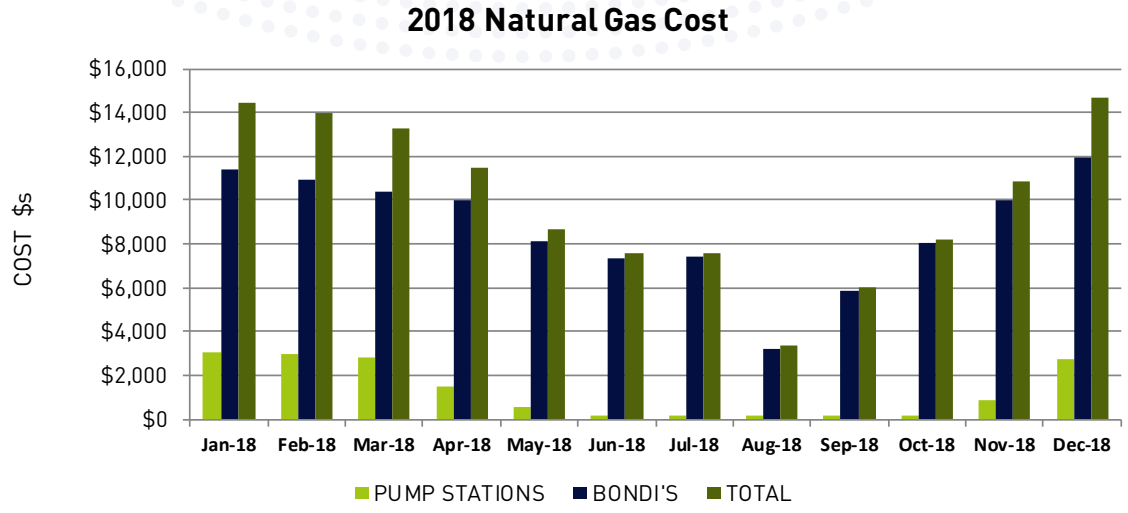


Electrical usage was up 8.5% in 2018 compared to 2017 due to a 20% increase in received in 2018.

NATURAL GAS

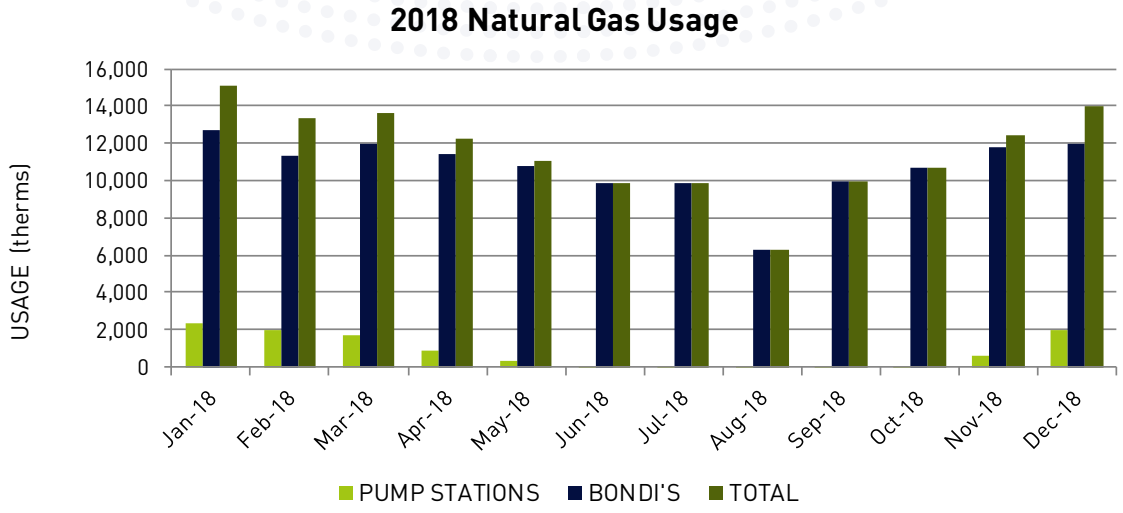
Natural gas costs for 2018 are summarized in the table and chart below. The average cost for gas in 2018 was $0.867 per therm. Total gas used in 2018 was 138,428 therms which is 265,322 therms less than the contract baseline of 403,750.

2018 Natural Gas Costs													
Location	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**
York	$749	$767	$939	$357	$167	$46	$20	$20	$20	$20	$157	$676	$3,936
Rowland	$506	$440	$369	$146	$20	$20	$20	$20	$20	$76	$341	$355	$2,333
Washburn	$437	$361	$281	$89	$30	$28	$29	$30	$29	$29	$270	$354	$1,967
Clinton	$458	$445	$405	$276	$165	$20	$20	$20	$20	$20	$29	$415	$2,293
Union	$63	$173	$39	$28	$20	$20	$20	$20	$20	$20	$20	$20	$462
Columbus	$796	$811	$778	$579	$128	$20	$20	$20	$20	$20	$20	$909	$4,121
Dickinson	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$238
PUMP STATIONS	**$3,030**	**$3,018**	**$2,831**	**$1,494**	**$549**	**$172**	**$147**	**$148**	**$147**	**$204**	**$857**	**$2,750**	**$15,348**
Bondi's (Blower)	$250	$185	$137	$153	$39	$20	$20	$20	$20	$20	$37	$220	$1,120
Bondi's (Admin)	$1,236	$1,362	$1,154	$1,048	$421	$116	$87	$133	$145	$223	$1,196	$1,657	$8,779
Bondi's (RTO)	$9,901	$9,388	$9,113	$8,800	$7,636	$7,248	$7,328	$3,059	$5,729	$7,772	$8,748	$10,076	$94,799
BONDI'S ISLAND	**$11,388**	**$10,935**	**$10,404**	**$10,001**	**$8,096**	**$7,384**	**$7,435**	**$3,212**	**$5,894**	**$8,015**	**$9,981**	**$11,953**	**$104,698**
TOTAL COST	**$14,418**	**$13,953**	**$13,235**	**$11,495**	**$8,645**	**$7,557**	**$7,582**	**$3,360**	**$6,041**	**$8,220**	**$10,838**	**$14,703**	**$120,046**



Natural gas usage for 2018 is summarized in the table and graph below.

2018 Natural Gas Usage (therms)													
Location	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**
York	620	531	573	210	103	25	0	0	0	0	122	493	2,677
Rowland	369	262	218	81	0	0	0	0	0	54	250	240	1,474
Washburn	317	213	163	45	10	8	9	10	9	9	195	239	1,227
Clinton	373	302	240	160	102	0	0	0	0	0	8	297	1,482
Union	37	109	12	5	0	0	0	0	0	0	0	0	163
Columbus	660	562	473	349	76	0	0	0	0	0	0	668	2,788
Dickinson	0	0	0	0	0	0	0	0	0	0	0	0	0
PUMP STATIONS	**2,376**	**1,979**	**1,679**	**850**	**291**	**33**	**9**	**10**	**9**	**63**	**575**	**1,937**	**9,811**
Bondi's (Blower)	196	114	73	83	14	0	0	0	0	0	15	149	644
Bondi's (Admin)	1,246	1,070	793	715	317	49	12	76	92	201	1,204	1,395	7,170
Bondi's (RTO)	11,259	10,146	11,083	10,619	10,434	9,807	9,818	6,240	9,869	10,455	10,609	10,464	120,803
BONDI'S ISLAND	**12,701**	**11,330**	**11,949**	**11,417**	**10,765**	**9,856**	**9,830**	**6,316**	**9,961**	**10,656**	**11,828**	**12,008**	**128,617**
TOTAL USAGE	**15,077**	**13,309**	**13,628**	**12,267**	**11,056**	**9,889**	**9,839**	**6,326**	**9,970**	**10,719**	**12,403**	**13,945**	**138,428**

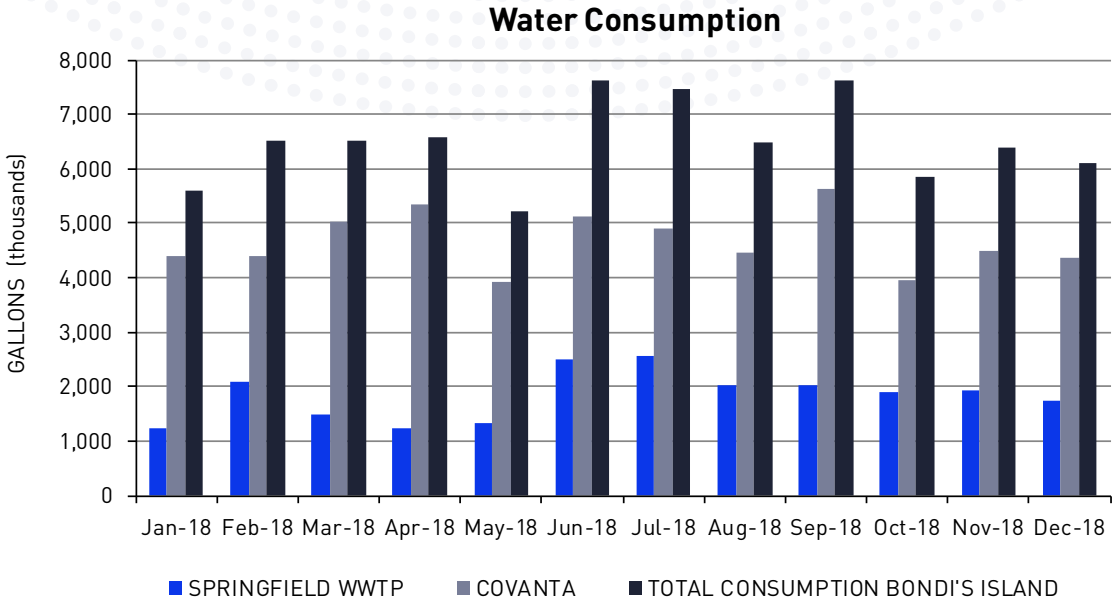


WATER CONSUMPTION

Water consumption for 2018 is summarized in the table and chart below. Water consumption for SRWWTF was approximately 4.66 million gallons more in 2018 than in 2017.

2018 Water Consumption (gallons)			
	SRWWTF	Covanta	Total Consumption*
Jan	1,220,821	4,389,569	5,610,390
Feb	2,104,270	4,403,034	6,507,304
Mar	1,490,119	5,017,933	6,508,052
Apr	1,229,050	5,357,548	6,586,598
May	1,321,060	3,911,564	5,232,624
Jun	2,507,471	5,126,400	7,633,871
Jul	2,567,314	4,901,985	7,469,299
Aug	2,035,449	4,453,902	6,489,351
Sep	2,013,756	5,616,374	7,630,130
Oct	1,892,571	3,949,715	5,842,286
Nov	1,923,990	4,479,335	6,403,325
Dec	1,730,992	4,380,593	6,111,585
Total	**22,036,863**	**55,987,952**	**78,024,815**

*Total consumption is metered at West City Connection. This meter includes and SRWWTF consumption. SR s usage from the total.



UTILITY OUTAGES

The following table lists power outages that occurred during 2018.

Electric Power Outages		
Date	**Location**	**Description**
02/22/18	Indian Orchard	7:15 a.m. – Brief intermittent power outages that lasted ~2 hours. Station ran on emergency generator power. No SSO occurred.
06/18/18	Berkshire	2:00 p.m. – Interruption of power that lasted less than one hour. Mechanical crew dispatched with Godwin pump but power was already restored. No SSO occurred.
08/04/18	Ryan	8:30 p.m. – Power outage due to circuit overload causing the transformer to trip. SUEZ staff reset transformer and power restored. No SSO occurred.
08/29/18	Indian Leap	7:30 a.m. – Brown out due to overloaded circuit which lasted just over one hour. Eversource corrected the problem and power was restored. No SSO occurred.
09/02/18	Carew	11:50 p.m. – Power outage due to a vehicle accident. Two mechanics dispatched with portable generator to provide power to the station. Power restored at 1:55 a.m. No SSO occurred.
09/03/18	Carew & Lyn	2:15 p.m. – Power outage due to an underground fault. Two mechanics dispatched with portable generator to Carew and Lyn monitored during the outage. Power restored at 4:35 p.m. No SSO occurred.
09/04/18	Canton, Courtside, Carew, Lyn	3:30 p.m. – Power outage due to an underground cable failure. Mechanics dispatched with the portable generator to Carew and the three other stations were monitored. Power restored to all stations by 6:30 p.m. No SSO occurred.
09/05/18	Barney, Tiffany & Dickinson	7:50 a.m. – Power outage, cause unknown. SUEZ staff inspected the affected stations and power was restored to all stations by 9:45 a.m. No SSO occurred.
09/20/18	Undine	6:50 p.m. – Interruption of power that lasted almost 2 hours. Mechanic and Eversource responded to check station and surrounding area, cause unknown. No SSO occurred.
10/02/18	Berkshire	6:20 p.m. – Power outage due to a manhole explosion. Mechanic dispatched to check station and Eversource already on site. Power restored at 8:00 p.m. No SSO occurred.
11/04/18	Dickinson, Tiffany & Barney	7:15 a.m. – Brief power outage due to a transformer ground fault. Power restored by Eversource at 7:30 a.m. No SSO occurred.
11/11/18	Berkshire	8:00 a.m. – Power outage that lasted more than 4 hours. Two mechanics dispatched to initiate bypass pumping. Power restored at 12:15 p.m. No SSO occurred.
12/16/18	Lake	4:30 a.m. – Power outage due to downed power line. Two mechanics dispatched with portable generator to provide power during outage. Utility power restored by Eversource at 6:30 p.m. No SSO occurred.

CHEMICAL USAGE

The following table summarizes chemical usage during 2018.

2018	Influent Chlorine	Effluent Chlorine	RAS Chlorine	Total Chlorine	Potassium Permanganate	Sodium Bisulfite	GBT Polymer	Centrifuge Polymer
	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs
Jan	0	0	0	0	0	0	4,319	27,753
Feb	0	0	0	0	0	0	5,802	21,879
Mar	0	0	0	0	0	0	6,086	27,583
Apr	0	26,273	0	26,273	0	9,479	8,700	29,895
May	1,309	26,951	0	28,260	242	9,385	6,762	31,127
Jun	6,891	24,544	4,288	35,723	837	8,832	6,865	29,835
Jul	9,587	26,660	0	36,247	677	9,457	4,426	28,110
Aug	23,186	28,521	0	51,707	3,178	9,268	7,639	28,620
Sep	26,745	28,270	0	55,015	3,787	9,113	6,048	23,222
Oct	13,851	35,675	0	49,526	1,507	10,142	7,454	29,028
Nov	0	0	0	0	0	0	6,522	28,016
Dec	0	0	0	0	0	0	6,056	21,769
Total	**81,569**	**196,894**	**4,288**	**282,751**	**10,228**	**65,676**	**76,679**	**326,834**

SLUDGE DISPOSAL

The following table summarizes processing disposal quantities of sludge for 2018.

Dewatered Sludge Hauled Off Site for Disposal by Casella Organics											
2018	Coventry, VT			Bethlehem, NH			Stanley, NY			Totals	
	Dry Tons	% TS	Wet Tons	Dry Tons	% TS	Wet Tons	Dry Tons	% TS	Wet Tons	Dry Tons	Wet Tons
Jan	304	23.5	1,294	60	23.5	254	44	23.5	186	408	1,734
Feb	315	22.8	1,383	23	22.8	102	38	22.8	167	377	1,652
Mar	475	22.3	2,131	8	22.3	35	105	22.3	469	588	2,635
Apr	470	23.3	2,018				127	23.3	545	597	2,563
May	472	23.4	2,016	8	23.4	35	97	23.4	415	577	2,466
Jun	183	24.1	757	203	24.1	841	61	24.1	253	446	1,852
Jul	9	24.8	35	355	24.8	1,433	53	24.8	214	417	1,682
Aug				321	24.3	1,320	35	24.3	143	356	1,464
Sep				264	24.5	1,079	43	24.5	174	307	1,253
Oct				326	23.6	1,383	66	23.6	279	392	1,662
Nov				395	23.5	1,681	15	23.5	66	410	1,746
Dec				419	23.4	1,789				419	1,789
Total	**2,228**		**9,635**	**2,382**		**9,951**	**683**		**2,912**	**5,293**	**22,498**

Dewatered Sludge Hauled Off Site for Disposal by Casella Organics											
2018	Hartford, CT			Waterbury, CT			Naugatuck, CT			Totals	
	Dry Tons	% TS	Wet Tons	Dry Tons	% TS	Wet Tons	Dry Tons	% TS	Wet Tons	Dry Tons	Wet Tons
Jan	226	23.5	960	265	23.5	1,128	61	23.5	259	552	2,347
Feb	263	22.8	1,151	185	22.8	810				447	1,961
Mar	271	22.3	1,216	147	22.3	658				418	1,874
Apr	321	23.3	1,379	89	23.3	384				411	1,763
May	314	23.4	1,343	103	23.4	440				417	1,783
Jun	312	24.1	1,294	134	24.1	556				446	1,850
Jul	282	24.8	1,138	78	24.8	314				360	1,452
Aug	322	24.3	1,325	134	24.3	550				456	1,875
Sep	252	24.5	1,028	169	24.5	691				421	1,719
Oct	301	23.6	1,274	164	23.6	695				465	1,970
Nov	280	23.5	1,190	163	23.5	694				443	1,883
Dec	289	23.4	1,237	187	23.4	798				476	2,034
Total	**3,432**		**14,534**	**1,817**		**7,717**	**61**		**259**	**5,311**	**22,511**

Total wet tons was 45,009 in 2018 compared to 39,919 in 2017. Total dry tons was 10,604 in 2018 compared to 9,735 in 2017.

Grit and Screenings Disposal

The following table summarizes the amount of grit/screenings processing disposal for 2018. The total amount of grit and rags removed in 2018 was 1,943 tons compared to 1,648 tons removed in 2017.

Grit & Screenings				
2018	Plant Grit	Plant Screenings	Sewer Grit	
	tons	tons	tons	source
Jan	112.13	31.06		
Feb	104.25	24.92	26.67	Pump Stations & Clinton Grit Pit
Mar	56.45	27.43	11.20	Clinton Grit Pit
Apr	68.77	45.26		
May	59.94	30.24	25.33	CRI & Clinton Grit Pit
Jun	108.63	32.68	24.31	CRI & Clinton Grit Pit
Jul	139.23	29.84		
Aug	181.13	26.57	21.60	Clinton Grit Pit
Sep	138.10	26.50	26.40	Clinton Grit Pit
Oct	173.84	34.68		
Nov	134.61	29.88	77.19	Clinton Grit Pit
Dec	76.19	38.03		
Avg	**112.77**	**31.42**	**30.39**	
Total	**1,353.27**	**377.09**	**212.70**	

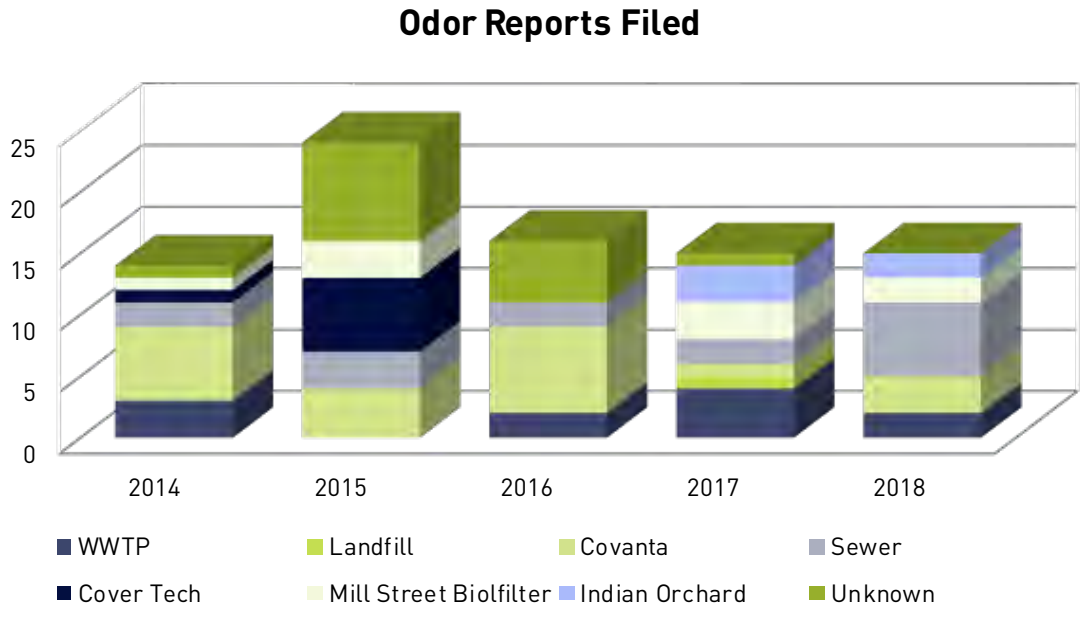
ODOR CONTROL

Odor Control Activities

During 2018, SUEZ continued with proven odor control program consisting of process controls to minimize formation of odors from the treatment processes, containment of odors at area of high generation potential, and the capture and treatment of odors using addition of chemicals and thermal destruction in the Regenerative Thermal Oxidizer. Odor control activities also included managing the odor hotline, conducting odor investigations and patrolling the facility and remote sites for odor detection. SUEZ scheduled potential odorous

	2018									2018	
	WWTP	Landfill	Covanta	Cover Tech	Sewer	Mill St Biolfilter	Indian Orchard P.S.	Unknown Source		Intra Island	Resident
Jan				1						0	1
Feb										0	0
Mar										0	0
Apr										0	0
May				1						0	1
Jun							1			0	1
Jul						2				0	2
Aug	2		1	3			1			3	4
Sep			2	1						2	1
Oct										0	0
Nov										0	0
Dec										0	0
Total	**2**	**0**	**3**	**6**	**0**	**2**	**2**	**0**		**5**	**10**

The chart below compares odor complaints over the period from 2014 to 2018.



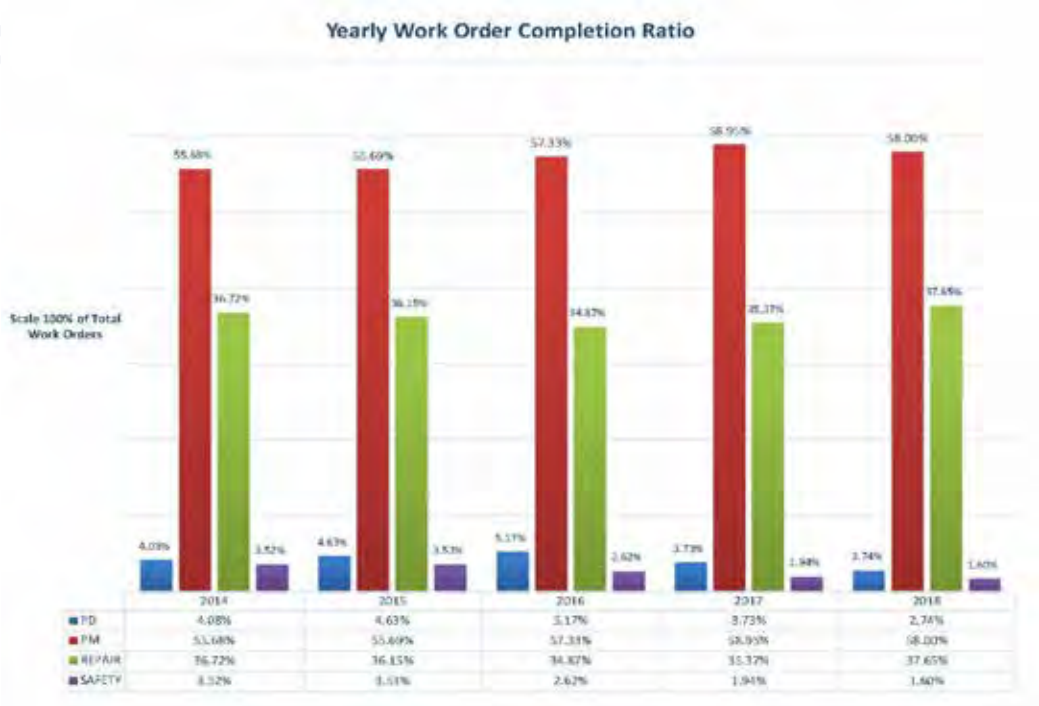
Maintenance Plans & Activities

Customer service and satisfaction is of critical importance to SUEZ. In the event that maintenance activities may impact production, we communicate and coordinate with customers before these activities occur until they are completed and operations are returned to normal.

MAINTENANCE WORK ORDERS

The following table and chart summarizes 2018 Year End MP2 Statistics for Preventive Maintenance (PM), Predictive Maintenance (PD), Safety and Corrective Maintenance (CM).

Start Backlog	Received WOs	Total WOs	Completed Backlog WOs	Completed Received WOs	Total Completed WOs	End Backlog	Total Open
PREVENTIVE MAINTENANCE (PMs)							
48	2114	2162	42	2021	2063	6	28
PREDICTIVE MAINTENANCE (PDs)							
7	103	110	5	89	94	2	21
SAFETY							
13	59	72	0	52	52	13	18
SAFETY							
93	1229	1322	76	1228	1304	17	73



MAJOR REPAIRS, OVERHAULS AND REPLACEMENTS

In addition to detailed highlights in the Introduction section of this report, the following table summarizes major repairs, overhauls and equipment replacements during 2018.

Completed	Description of Major Overhaul or Replacement
January	• Plant Air Compressor #2 – Inoperative. Electrician found main display on high-pressure compressor unit to be in error mode and unit would not reset. Inspected VFD for fault code and called factory for verification of fault code. Local contractor sent from factory to remove, replace and reprogram replacement VFD. After installation, unit started and tested by Operations and factory technician. Unit working fine. • SC-14 Gearbox – Noisy. Maintenance staff removed motor to inspect gearbox. Investigation found that front seal on gearbox failed and allowed sludge to enter. Unit drained and seal replaced. Unit filled with new oil and motor attached. Unit still making some noise. New replacement unit ordered with high efficiency motor. Both motor and gearbox changed out. Electrician wired unit and tested for correct rotation. Unit returned to service.
February	• PS Pump #4 – Overhaul (leaking sludge). Maintenance staff locked out TPS #4 and stripped unit. Replaced jugs, pistons, drive flanges, connecting rods, wrist pins, check balls, check ball plates, packings, main drive shaft, bearings and packing glands. After assembly in shop, unit returned to gallery and installed back into position. Drive shaft aligned to gear box and new drive coupling installed. Unit started, tested and returned to service. • Aeration Control Valve 310 – Not responding locally or remotely. Electrician checked power at valve to trace problem. 480 volts recorded at valve between all 3 phases. Called in service technician from Limitorque for assistance. New display board installed and recorded all other faults. New motor installed and unit tested ok. Unit failed again during the night and service technician called back. Encoder board replaced and memory board updated, unit returned to service. • Centrifuge – VFD #2 faulted. Electrician disconnected motor leads from VFD and meggered the motor which tested ok. Reconnected wires and tried to start motor and amps would go above full load rating on motor and trip again. Removed cover on motor and disconnected wires to check for possible short in lines from VFD, no problem found. Removed VFD and installed spare from stock room and reconnected wires at VFD and motor. Uploaded program to VFD and tried to start unit, VFD tripped. Electrician cleared program in VFD, took smaller motor from stock room and wired directly to VFD. Programmed unit to match nameplate data on test motor. Started VFD and was able to run motor. Centrifuge motor removed and sent out to be inspected and found that winding in motor was damaged causing the problem. New motor ordered from Baldor, shipped overnight and installed the next day. New VFD removed and old VFD unit reinstalled. After a few modifications to fit new motor, unit was wired and tested. Unit started without any electrical problems. All belts replaced, guards installed, and unit started and put back in service. Old motor repaired and placed in storage as spare.
March	• Influent Biofilter – Fan replacement. Maintenance removed rotted biofilter fan and motor. Cleaned concrete pad, and inlet and outlet piping. Installed and anchored new unit to concrete pad. Replaced inlet and outlet piping and sealed with silicone. Electrician wired fan motor. All guards installed, unit started, checked velocity readings and electrician adjusted VFD to correct set point. • Equalization Tank Mixer #2 – Inoperative. Electrician found that motor failed to ground when checking windings. Unit removed and sent to local motor shop for evaluation which confirmed that motor shorted to ground. Unit overhauled by motor shop, returned to plant and installed by Maintenance staff. Unit wired and rotation checked before returning to normal service

Completed	Description of Major Overhaul or Replacement
April	• RAS Pump #1 – Noisy. Maintenance found top bearing on pump to be defective. Replacement bearing removed from inventory. Unit shut down and locked out. Mechanics separated coupling and removed belts on motor. Bearing removed and replaced with spare. Pump clearances checked and bearing secured on unit. New coupling installed on bearing input shaft. Gearbox reinstalled and aligned to pump. New belts installed on motor to gearbox and adjusted to correct tension. Unit filled with oil and started. Checked for abnormal vibration, replaced guards and returned unit to normal service. • Mill Street – Main blower (bad bearings). Maintenance staff removed unit and could visually see that it was beyond repair. Spare unit installed and new replacement ordered for stock room. • Power Outage – High voltage cables B-East replaced. Contractor finished pulling additional wires to main high voltage switch gear and power center 2-A and 2-B. Contractor completed all terminations in power centers and splices in manholes. Maintenance staff maintained emergency power to plant during outage and also checked all equipment when power was restored at end of each day. Contractor energized circuit and check rotation of 3 phase motors, work complete. • Storm water pump replaced with new submersible. Maintenance staff removed old pump and installed a new rail system to hold new pump. All new piping fabricated and installed. New piping configuration allows water to be sent to tank drain and to be pumped back into the treatment system or sent to the effluent pumps. New valves and check valves installed. Electrician made necessary connections and checked for proper rotation.
May	• TWAS Pump #3 – Overhaul. Maintenance staff locked out pump, disassembled and inspected for wear. Found that impeller, cutter, cutter bar plate and mechanical seal to be worn and/or leaking. Removed all worn parts and drained oil. Cleaned and inspected bearings. Replaced oil seals and refilled unit with oil. Installed new impeller, cutter, cutter bar and mechanical seal. Made necessary adjustments for clearances on cutter and cutter bar. Removed locks and tested unit for proper operation and any noise. Unit returned to service. • Centrifuge #2 – VFD faults. Called in outside contractor to troubleshoot problem. Found all three legs going to ground when tested. Opened motor doghouse and found some water. Disconnected wires at motor and at bottom of VFD and checked for ground fault in all three feeders. Electrician removed all wires from VFD to motor and replaced with new. Made connections in doghouse on motor and sealed unit. Connected wires to VFD and tested unit for correct rotation. Unit started. Work complete, unit returned to normal operation. • GBT #2 – Belt replacement. Maintenance and Operations staff removed defective belt from GBT #2. During replacement also installed new rubber seals to wash box while belt was out. Installed new belt and adjusted for correct tension. Greased all bearings on rollers and started unit. Observed unit running without any product for belt tracking. Operations opened valves and tested unit under full load with no issues. Unit returned to service.
June	• Aeration Blower – Class II overhaul. Service technician arrived on site June 5th to check problem with air flow on Blower #2. Opened air end of blower to inspect for possible problem and made minor repairs to damper linkage. Reassembled unit and tested. Repaired some oil leaks on unit and replaced one temperature probe. Unit was able to produce 28,900 cfm. Further investigation found MCC IRQ1000 incorrectly sending 4-20 milliamp signal to processor. Correction for problem researched by manufacturer. Blower #3 given to service technician to start overhaul. Drive section and air section dismantled and inspected for wear. Technician reported the impeller was in good shape with no nicks or damage. All bearings and gear showed normal wear and also in good shape. Blower reassembled and started without mechanical issues. Blower output cfm 28,900. Blower shut down and service technician began overhaul on last unit #1. Unit dismantled and inspected, found dirt on air side of unit but no nicks or damage to impeller. Drive side inspected and found normal wear to gear and bushing. Cleaned all parts and reassembled unit. Unit started, output cfm 28,900. Unit ran for one day and checked for vibration and found to be well within normal specification per manufacturer. Instrument technician completed flushing cooling water supply and finished other loose ends, work completed.

Completed	Description of Major Overhaul or Replacement
July	• BFP-07 Pump – Overhaul. Maintenance staff disassembled plunger pump and brought to shop for overhaul. New jugs, pistons, eccentrics, connecting rods, check balls, check ball plates, packings, drive shaft and bearings were replaced. Unit brought back to TOS gallery and reinstalled. • WAS #3 – Vaughan chopper pump VFD failed. New VFD ordered from local vendor. Unit arrived 2 days later and electrician removed defective unit and installed and programmed new. Unit started and tested fine, returned to service.
August	• Berkshire Pump Station – Pump #1 inoperative. Electrician checked motor and found phase to ground short. Maintenance staff removed unit and sent to local motor shop for evaluation. Cost to repair unit was extremely high and decision was made to replace with new. New unit ordered from vendor and installed. Some modifications to piping was required to accommodate new pump. Electrician connected new pump and tested for proper rotation and unit returned to service. • TPS #3 – Muffin monster tripped out. Electrician meggered motor and found no issues and replaced fuses. Maintenance staff pulled inspection plates to check for foreign object jamming unit but nothing found. Further inspection determined that cutter blades were damaged and causing the problem. New spare Franklin Miller unit taken from stock and installed. Electrician wired new motor and checked for proper rotation. Unit returned to service.
September	• #3 Gravity Thickener Gear Box – Rebuild. Maintenance staff began rebuild of thickener gearbox in shop. Removed all old parts, cleaned housing and matched new parts with old. Installed all bushings and bearings in gearbox housing and assembled the shaft to ring gear. Installed pinion screw and bearings. Cover for gearbox sandblasted and painted. Filled unit with oil and greased as specified in manual. Unit currently out of service and crane scheduled for Spring 2019 to place unit back in place on tank. • Secondary Bridge #1 – Chain & flights overhaul. Maintenance staff replaced two lanes of plastic chains and fiberglass flights. Chain installed on sprockets and master link installed for both sides. Flight installed on first attachment, checked for alignment and perpendicular to lane walls. Remaining flights installed thereafter. Mechanics, in conjunction, removed chain, cables and sludge blade from bridge. Installed new cables, safety chains and anchor points. Repaired structural steel supports for sludge blades and skim blades. Sludge blade replaced with new. All structural supports at water line wrapped with angle iron and welded for strength.
October	• Indian Orchard Pump Station – Wet weather pump #3 overhaul. Maintenance staff removed the rotating assembly on pump #3 and brought to maintenance shop. Unit completely disassembled and cleaned. Shaft inspected for wear on bearing fits and found to be ok. Parts obtained from stock and new bearings and seal installed on shaft, along with new mechanical seal. Impeller installed on shaft and new suction nozzle installed on pump housing with new wear rings. Bearings repacked with new grease and unit returned to station and installed. Pump impeller clearance set and mechanical seal set. Unit started and monitored for vibration and heat, ok. Unit returned to service. • Annual boiler cleaning and inspection. Contractor called in to open and clean both plant boilers. After opening unit and inspecting, found minimal problems with both units. Water treatment program working well, very little scale build-up on tube in water side. Refractory on burner in good shape. All loose material removed and refractory resealed. Unit closed, refilled and tested fine.

Completed	Description of Major Overhaul or Replacement
November	• BFP-05 Pump – Total rebuild. Maintenance staff removed parts from stock to rebuild plunger pump. Mechanics assembled new eccentrics, drive flanges, pillow block bearings, connecting rods, piston and jugs. Unit shut down early in the morning and locked out. Mechanics dismantled unit and cleaned. Once unit totally dismantled, new jugs installed on unit. Pre-assembled shaft and piston assembly installed. New check balls and seat installed. Drive couple inspected and changed. All lubrication lines reconnected and stroke length set. New packings installed and torqued to specifications. Lockouts removed and unit started. • Aeration Blower #2 – Will not run, faulted on startup. Instrument Technician found contactor failing to pull in. Called IDC to assist with diagnosis was instructed to check contactors in another cabinet. Amp Electrical called in to assist with removal of contactor. RESA Power picked up contactor and brought to their shop to make necessary repairs. Unit returned to plant and Amp Electrical called back into reinstall contactor back into position. Replacement IQ1000 programmed by IDC after installation. Unit started and ran without issues. • Centrifuge Polymer Feed Pump # 1 – Noisy. Maintenance staff locked out pump and disconnected, and brought to shop for repairs. Pump taken apart and found bushing for connecting rotor to drive was missing. New stator, rotor, bushings and pins taken from stock. Unit rebuilt and reinstalled. Tested pump for proper operation, returned to service.
December	• Vaughan Chopper WAS Pump #2 – Overhaul. Maintenance staff removed impeller, cutter bar and mechanical seal, drained oil in bearings, inspected shaft and drive coupling. Replaced all parts with new, filled with new oil and adjusted impeller. Installed new drive coupling and tested pump. No problems detected, returned to service. • GBT #1 – Belt replacement, will not dewater. Maintenance staff locked out unit and removed wash box and belt. Installed new belt, set tension and tracking. Installed new wash box and spray bar. Installed new shacanes on top of unit along with edge wipers. Removed PVC spray bar that had been installed to help clean belt but is no longer needed with new factory spray bar. Removed locks, started unit and returned to service. • Indian Orchard Pump Station – SRU HMI upgrade. One of the HMI interfaces for the IOPS septic receiving units failed. These interface units are no longer manufactured and an upgraded model was required. Quote requested from local contractor for upgraded units with programming and installation. New display ordered, programmed and tested by contractor prior to installation. On site installation and startup completed without issues.

Note: Pump Station Activity Report can be found in Attachment Pump Station Activity Report for 2018 can be found in Attachment 1.

Environment, Health , Security & Safety

SUEZ is committed to providing its employees with a comprehensive, environment, health and safety (EHS) training program. This training program is based on individual training needs of each employee, with input from the EHS manager. Applicable training courses are assigned to the individual employees based on individual job responsibilities. We continue to emphasize the 10 Life Saving Rules, which were implemented at all projects in 2013 and continued through 2018.

Examples of key EHS initiatives that continued or were implemented at the MA project during the 2018 operating period included:

Drive to Zero campaign. The goal is to achieve zero 'lost time' accidents at all SUEZ operations. This requires all to continue safety inspections of the SWSC wastewater facilities, including the wastewater plant, 25 sewage pump stations, seven stations, as well as the Ludlow Monitoring Station and the Mill Street Odor Control Facility during their daily work routines. This company-wide inspection program, using OSHA guidelines, scrutinizes for safety infractions, no matter how minor.

Routine training sessions, seminars and compliance workshops. SUEZ at the project regularly participated in training activities and continues training to ensure compliance with the new Global Harmonized Standards.

In 2018, SUEZ hired an additional EHS Manager, Michael Coon, for the Northeast region with a home base at the location. Mr. Coon's presence will help assist local projects with the company's Drive to Zero

Intelex Event Reporting Software. Despite the Drive to Zero campaign, SUEZ recognizes some safety hazards cannot be eliminated or controlled. If an injury, accident, unsafe condition or near-miss event occurs a complete investigation is conducted in an to prevent such an occurrence from happening again. SUEZ utilizes the web-based program Intelex to guide the through the investigation. Intelex allows an organization to easily record, track, trend and investigate the types of safety-related incidents which increases the of our EHS program. This investigative tool involves SUEZ personnel from the local (facility) level and depending on its severity, the highest levels of the EHS division, who work together to determine root causes and remedies for each incident. In 2018, SUEZ implemented gloves be worn as part of minimum PPE requirement.

HEALTH AND SAFETY

- National Safety Council – Defensive Driving
- Process Safety Management – RMP
- Job Hazard Analysis/ Safe Work Plan
- Working With Chemicals
- Chlorine Safety
- Cleaning Up Small Chemical Spills
-
- Hazardous & Universal Waste
- 10 Life Saving Rules
- HAZWOPER – Awareness Level
- T
- Hazard Communication
- Hot Work Permits
- Laboratory QA/QC
- Ladder Safety
- Lock Out tag Out
- Housekeeping Safety
- Storm Water Pollution Prevention
- Personal Protective Equipment
- Electrical Safety
- Preventing Slips, Trips & Falls
- Work Zone Safety

SUEZ continues to possess and train all employees on the use of an Automatic External (AED). An AED is a portable electronic device that automatically diagnoses the life-threatening cardiac arrhythmias and ventricular tachycardia in a stricken worker. An AED has the ability to treat victims through , the application of electrical therapy which stops the arrhythmia, allowing the heart to reestablish an rhythm.

ENVIRONMENTAL COMPLIANCE

SUEZ has a good environmental compliance record which is in a high level of compliance at all projects including MA. One of the highest priorities is complete transparency in all environmental matters at all projects. To accomplish this, the state-of-the-art Water Information Management System (Hach WIMS™) is used to monitor and track all compliance data. This data is reviewed daily, weekly and monthly, and any issues are immediately reported, investigated for root-causes, and appropriate corrective and preventive measures are implemented. This data is also automatically transferred into the monthly report format for the State, thus eliminating the potential for any data transcription/calculation errors. Due to these and other compliance initiatives, the project did not experience missed samples or reporting deadlines in 2018.

SUEZ also participates in its parent company's (Paris-based SUEZ) annual reporting campaign. Pertinent data from all projects is reported to Paris and is benchmarked against water and wastewater treatment facilities across the world. Any deviations are noted and shared with the management team and are used to optimize plant operations for the clients we serve. This is a high-value service which SUEZ provides to all its clients at no cost to them.

Community Relations

SUEZ recognizes that its role in the community is as critical a part of its presence in as managing its wastewater facilities. SUEZ sustains good corporate citizenship through the support of many community outreach programs. Over the past year, the company has donated money to various local organizations. The primary focus is to support non-p organizations dedicated to the environment, education, diversity and humanitarian services. SUEZ employees also volunteer their own time working with organizations to .

COMMUNITY TOURS & PROFESSIONAL OUTREACH

SUEZ recognizes that public and professional outreach is important. In 2018 the facility conducted tours for the University of Hartford and the Fellowship of Retired Men SUEZ personnel also spoke to students at Holyoke Community College about careers in the water treatment SUEZ participated in Earth Day

In celebration of 2018 'Imagine a Day Without Water', the SWSC tours of its drinking water and wastewater treatment plants to customers and members of the public. At the drinking water plant, participants were able to learn and see how water from Cobble Mountain Reservoir is treated for safe consumption by 250,000 customers in the lower Pioneer Valley every day. Portions of the plant still in use date from 1909. At the wastewater treatment plant, participants learned what happens once the water they use down the drain, and how that water is cleaned for eventual discharge into the Connecticut River.

SUEZ hosted students from the engineering program at the University of Hartford to work on wastewater projects and presented the results at the annual New England Water Environment Conference.

WORLD IS OUR CLASSROOM

World Is Our Classroom (WIOC) is an innovative, program-based project that provides children of our community with education in science, technology, engineering and mathematics through programs that emphasize real-world experience and hands-on learning. To date, 30,200 students have attended the program.

Over the past 16 years, WIOC and its partners in the education and business communities have developed and implemented some of the region's most innovative, non-traditional classroom programs involving active, hands-on learning experiences in science, technology, engineering, math and manufacturing. Programs follow a curriculum from grade through high school that prepares students for material covered on the MCAS science exams.

A DAY AT BONDI'S ISLAND

'A Day at Bondi's Island,' the grade school program through WIOC, celebrated its 15th year in 2018. Participation for 2018 is shown below.

World is Our Classroom – 2018 School Year		
Month	**No. of Classes**	**No. of Students**
Jan	15	326
Feb	14	295
Mar	16	329
Apr	15	370
Oct	4	92
Nov	8	183
Dec	13	283
Total	**85**	**1878**

KEEP SPRINGFIELD BEAUTIFUL

SUEZ employees and their families volunteered for riverfront and community clean-ups that included

DRAGON BOAT FESTIVAL

In June 2018, SUEZ participated in the 4th Annual Dragon Boat Festival on the Connecticut River at the New North Riverfront Park in Several teams from and across the New England area raced 47-ft. Chinese-style dragon boats in a 200-meter race course through several preliminary and heat race events.

SUEZ sponsored and paddled a boat comprised of volunteers from the project, the SWSC, and friends and family. The boat sponsorships help the Pioneer Valley Recreation Club raise funds to support their community rowing, riverfront rediscovery and healthy life choices programs. This event takes place across the river from the SRWWTF, demonstrating our excellence in operation and management of the treatment plant and commitment to environmental stewardship. This event not only fosters a great working relationship with both SWSC and SUEZ employees, but participation in this event also helps draw the community's attention to the river that we work so hard to protect.

CHARITABLE GIVING

in 2018, including the following:

-
-
- Connecticut River Conservancy
- Pioneer Valley Recreation Club (PVRC)
-
- Agawam Veterans Association
- Agawam Boys & Girls Baseball/Softball
- Women's Senior Softball

mysuezwater.com
facebook.com/SUEZwaterNE

Capital Improvements Plan for Bayonne, NJ
2018 - 2023 Planning Period
September 13, 2019

		2018 and 5 Year CAPITAL PLAN					
		2018	2019	2020	2021	2022	2023
Business Unit 401-2137	**INC Capital Cap**	$ 2,729.85	$ 2,735.24	$ 2,776.30	$ 2,811.00	$ 2,853.17	$ 2,895.95
Suez Water Environmental Services	**TOTAL INC**	$ 2,846.00	$ 2,730.00	$ 2,768.60	$ 2,808.60	$ 2,853.17	$ 2,895.95
	ASA	$ 939.0	$ 3,302.0	$ 3,252.0	$ -	$ -	$ -
	NJEIT	$ 165.0	$ 3,540.0	$ 7,906.0	$ -	$ -	$ -
	Total Net Expenditure	$ 3,950.0	$ 9,572.0	$ 13,926.6	$ 2,808.6	$ 2,853.2	$ 2,896.0

Project Title	ASA		Total Project Budget	2018	2019	2020	2021	2022	2023
Vehicle Leases		John	$ 1,110.0	$ 185.0	$ 185.0	$ 185.0	$ 185.0	$ 185.0	$ 185.0
Oak Street PS Exhaust Fan Replacement		Dave	$ 75.0	$ 75.0	$ -	$ -	$ -	$ -	$ -
22nd Street Pump Station Replacement (Bar Screen)		Dave	$ 650.0	$ 650.0	$ -	$ -	$ -	$ -	$ -
Flow and Pumping Assessments		Dave	$ 780.0	$ -	$ 240.0	$ 270.0	$ 270.0	$ -	$ -
Oak Street Bar Screen Replacement		Dave	$ 1,400.0	$ -	$ -	$ 700.0	$ 700.0	$ -	$ -
Electromechanical Testing and Assessment		John	$ 270.0	$ -	$ 270.0	$ -	$ -	$ -	$ -
1st St PS - Emergency Generator and Elec. Improvements		Dave	$ 925.0	$ 750.0	$ 175.0	$ -	$ -	$ -	$ -
Sewer System Improvements (Sewer & MH Rehab)		Dave	$ 2,136.0	$ 176.0	$ 360.0	$ 400.0	$ 500.0	$ 300.0	$ 400.0
Emergency 24th St Sewer		Dave	$ 100.0	$ 100.0	$ -	$ -	$ -	$ -	$ -
CSO Improvements		John	$ 500.0	$ -	$ 100.0	$ 100.0	$ 100.0	$ 100.0	$ 100.0
Sewer & Water Asset Management Plan		John	$ 220.0	$ 20.0	$ 100.0	$ -		$ 100.0	$ -
Outfall Tide Gates		Dave	$ 144.4	$ -	$ 50.0	$ 23.6	$ 23.6	$ 23.6	$ 23.6
Water Transmission & Distribution System Improvements		Dave	$ 1,600.0	$ -	$ 400.0	$ 300.0	$ 300.0	$ 300.0	$ 300.0
Flow Monitoring at MOT (Marine Ocean Terminal)		Dave	$ 40.0	$ 40.0	$ -	$ -	$ -	$ -	$ -
Maintenance Cap Overflow		John	$ 4,920.0	$ 850.0	$ 850.0	$ 790.0	$ 730.0	$ 850.0	$ 850.0
Capital Improvements - Other		TBD	$ 2,031.9					$ 994.6	$ 1,037.4
Long Term Control Plan	X	John	$ 1,194.0	$ 444.0	$ 400.0	$ 350.0	$ -	$ -	$ -
Belleville Pike Aqueduct Slip Lining Westside	X	Dave	$ 3,894.0	$ 250.0	$ 1,822.0	$ 1,822.0	$ -	$ -	$ -
Belleville Pike Aqueduct Slip Lining Eastside	X	Dave	$ 2,360.0	$ 200.0	$ 1,080.0	$ 1,080.0	$ -	$ -	$ -
UST Permitting/Testing at Oak St PS	X	John	$ 45.0	$ 45.0	$ -	$ -	$ -	$ -	$ -
Aqueduct Hackensack River Crossing Dir Drill	X	Dave	$ 11,611.0	$ 165.0	$ 3,540.0	$ 7,906.0	$ -	$ -	$ -

Capital Improvements Plan for Bayonne, NJ
2019 - 2024 Planning Period
September 13, 2019

		2019 and 5 Year CAPITAL PLAN					
		2019	2019 to date	2020	2021	2022	2023
Business Unit 401-2137	**INC Capital Cap**	$ 2,782.00		$ 2,776.30	$ 2,811.00	$ 2,853.17	$ 2,895.95
Suez Water Environmental Services	**TOTAL INC**	$ 2,532.73		$ 2,670.00	$ 2,687.00	$ 2,847.00	$ 2,747.00
	Modifications	$ 2,577.4		$ 240.0	$ -	$ -	$ -
	NJEIT	$ 118.0		$ 5,346.0	$ 3,564.0	$ -	$ -
	Total Net Expenditure	$ 5,228.1		$ 8,256.0	$ 6,251.0	$ 2,847.0	$ 2,747.0
	Total Expenditure to Date	$ 967.8					

Project Title	Modifications		Total Project Budget	2019 - Projection	2019 - To Date	2020	2021	2022	2023
Vehicle Leases		Jason	$ 1,110.0	$ 185.0	$ 63.0	$ 185.0	$ 185.0	$ 185.0	$ 185.0
1st St PS - Emergency Generator and Elec. Improvements		Tugba	$ 787.5	$ 88.5	$ 1.6	$ 699.0	$ -	$ -	$ -
Flow Monitoring at MOT (Marine Ocean Terminal)		Tugba	$ 47.2	$ -	$ 7.2		$ -	$ -	$ -
Oak Street PS - Stormwater Bar Screen No. 1, Stormwater HVAC, H2S Monitor, Odor Control Replacement Project		Tugba	$ 1,262.8	$ 306.8	$ 15.5	$ 756.0	$ 200.0	$ -	$ -
Oak Street PS - Sanitary Bar Screen No. 1 Replacement Project		Tugba	$ 850.0	$ -			$ 850.0		$ -
Oak Street PS - Sanitary Bar Screen No. 2 Replacement Project		Tugba	$ 850.0	$ -		$ -		$ 850.0	$ -
Oak Street PS - Sanitary Side - Odor Control, HVAC and H2S Monitor Replacement Project		Tugba	$ 250.0	$ -		$ -	$ -	$ 250.0	$ -
Oak Street PS - Stormwater Pump No. 1 Replacement Project		Tugba	$ 200.0	$ -		$ -		$ 200.0	$ -
Oak Street PS - Stormwater Pump No. 2 Replacement Project		Tugba	$ 200.0	$ -		$ -	$ -	$ 200.0	$ -
Oak Street PS - Stormwater Pump No. 3 Replacement Project		Tugba	$ 200.0	$ -		$ -	$ -	$ -	$ 200.0
Oak Street PS - Sanitary Pump No. 1 Replacement Project		Tugba	$ -	$ -		$ -	$ -	-	$ -
Oak Street PS - Sanitary Pump No. 2 Replacement Project		Tugba	$ -	$ -		$ -	$ -	-	$ -
Oak Street PS - Sanitary Pump No. 3 Replacement Project		Tugba	$ -	$ -			$ -	-	$ -
Oak Street PS - Vortex Grit Chamber Modification Project		Tugba	$ 200.0	$ -		$ -	$ 200.0	$ -	$ -
Oak Street PS - Emergency Generator Upgrade Project		Tugba	$ 800.0	$ -		$ -	$ -	$ -	$ -
Oak Street PS - Pump Seal Water Replacement Project		Tugba	$ 70.0	$ -		$ -	$ 70.0	$ -	$ -
Oak Street PS - Water Service (North Side) Replacement Project		Tugba	$ 100.0	$ -		$ -	$ -		$ 100.0
Bayonne Development Projects		Tugba	$ 74.2	$ 14.2	$ 1.9	$ 12.0	$ 12.0	$ 12.0	$ 12.0
37th St Sewer Lining Project		Tugba	$ 150.0	$ -		$ -	$ -	$ -	$ 150.0
AMI Metering Asset Management & Maintenance		Tugba	$ 214.8	$ 214.8					
Sewer Rat/Pull Camera Procurement		Tugba	$ 53.1	$ 53.1	$ 45.0	$ -	$ -	$ -	$ -
22nd St PS - HVAC/Lighting Project		Tugba	$ 75.0	$ -		$ -	$ -	$ -	$ -
22nd St PS - Site Improvements		Tugba	$ 50.0	$ -		$ -	$ -	$ -	$ 50.0
5th St PS - Bar Screen Replacement Project		Tugba	$ 800.0	$ -		$ -	$ -	$ -	$ 800.0
5th St PS - Dewatering Pump Replacement Project		Tugba	$ 125.0	$ -		$ -	$ -	$ -	$ -
Watermain Relining Project		Tugba	$ 145.0	$ -		$ -	$ 145.0		$ -
Oak Street Pump Station Capital Improvement Plan		Tugba	$ 83.8	$ 83.8	$ 2.0	$ -	$ -	$ -	$ -
Fire Hydrant and Isolation Valves Replacement Program		Tugba	$ 100.0	$ 88.5		-	-	-	
Aqueduct (Bayonne/Jersey City) Interconnection Valve Replacement Project - Pulaski		Tugba	$ 118.0	$ -		$ 118.0	$ -		$ -
Aqueduct (Bayonne/Jersey City) Interconnection Valve Replacement Project - Cator		Tugba	$ 150.0	$ -		$ -	$ -	$ -	$ 150.0
Water Transmission & Distribution System Improvements		Tugba	$ 425.0	$ -		$ -	$ 125.0	$ 100.0	$ 100.0
CSO Improvements		Jason	$ -	$ -		$ -			
Sewer & Water Asset Management Plan		Jason	$ 156.6	$ 56.6	$ 48.0	$ -	$ -	$ 100.0	$ -
Outfall Tide Gates		Tugba	$ 225.0	$ -		$ -	$ -	$ -	$ -
Water and Wastewater SCADA/Alarm system Upgrades		Jason	$ 70.0	$ 82.6					
5th Street Generator Upgrades		Jason	$ 95.0	$ 95.6					
Jet Truck Spinning Nozzle Procurement		Jason	$ 20.0	$ 5.9					
Maintenance Cap Overflow		Jason	$ 6,007.4	$ 1,257		$ 900.0	$ 900.0	$ 950.0	$ 1,000.0
Long Term Control Plan	X	Jason	$ 490.0	$ 250.0	$ 107.0	$ 240.0	$ -	$ -	$ -
Aqueduct Condition Assessment Project	X	Tugba	$ 900.0	$ 900.0	$ 9.7				
Sewer & Manhole Rehabilitation Project (Ave F & 24th St.)	X	Tugba	$ 625.4	$ 625.4		$ -	$ -	$ -	$ -
Bayonne Sewer Forcemain Replacement Project	X	Jason	$ 684.0	$ 684.0	$ 643.5				
Aqueduct Hackensack River Crossing Directional Drilling Project	X	Tugba	$ 9,028.0	$ 118.0	$ 23.4	$ 5,346.0	$ 3,564.0	$ -	$ -

BOROUGH OF MIDDLETOWN
SEWER COLLECTION, CONVEYANCE, & TREATMENT FACILITIES
DRAFT - 5 Year Capital Improvements Plan (2018-2022)
February 23, 2018

	5 YEAR PLAN				
BASE CAPITAL IMPROVEMENTS	**2018**	**2019**	**2020**	**2021**	**2022**
Emergency Lighting Replacement Project	$ 2,100	$ -	$ -	$ -	$ -
Biofilter Media Replacement Project	$ 100,000	$ -	$ -	$ -	$ -
SNDR Pump Rebuild Project	$ 35,237	$ -	$ -	$ -	$ -
SNDR Pump Replacement Project	$ -	$ 47,803	$ -	$ -	$ -
Headworks Wet Well Pump and Tank Rehabilitation Project	$ 58,000	$ 20,000	$ -	$ -	$ -
Sanitary Sewer Collection System Rehabilitation Plan	$ 7,453	$ 10,000	$ 10,000	$ 10,000	$ 10,000
Water and WWTP Capital Improvement Plan	$ 9,953	$ 10,000	$ 10,000	$ 10,000	$ 10,000
Well No. 4 Rehabilitation Project	$ -	$ 50,000	$ -	$ -	$ -
Centrifuge Rehabilitation Project	$ -	$ -	$ -	$ 50,000	$ -
Well No. 3 Stripping Tower Rehabilitation Project	$ -	$ -	$ -	$ 15,000	$ 110,000
Ventilation of ATAD Building Project	$ -	$ -	$ 30,000	$ -	$ -
Arc Flash Study	$ -	$ 40,250	$ -	$ -	$ -
Fire Alarm System Project	$ -	$ 30,000	$ 91,250	$ -	$ -
Sodium Hypochlorite Tank Conversion Project	$ -	$ -	$ 141,750	$ 121,250	$ -
Blower Building Instrumentation Replacement Project	$ -	$ -	$ -	$ -	$ 6,500
SCADA Upgrade Project	$ -	$ -	$ 24,000	$ 24,000	$ 24,000
WAS Storage Tank Instrumentation Replacement Project	$ -	$ -	$ -	$ -	$ 13,000
Biofilter Instrumentation Replacement Project	$ -	$ -	$ -	$ -	$ -
ATAD & SNDR Reactors Instrumentation Replacement Project	$ -	$ -	$ -	$ 14,500	$ -
Headworks Instrumentation Replacement Project	$ -	$ -	$ -	$ -	$ 6,500
Biosolids Processing Instrumentation Replacement Project	$ -	$ -	$ -	$ 6,500	$ -
Oxidation Ditch Instrumentation Replacement Project	$ -	$ -	$ -	$ 15,000	$ -
Scum Pump Station Instrumentation Replacement Project	$ -	$ -	$ -	$ 2,300	$ -
WWTP Equipment Upgrades (Other Capital Improvements)	$ 34,176	$ 32,826	$ 13,309	$ 19,290	$ 42,861
Water System Upgrades (Other Capital Improvements)	$ 27,581	$ 42,663	$ 10,985	$ 21,665	$ 43,905
Transmission & Distribution System Upgrades (Other Capital Improvements)	$ 23,334	$ 31,235	$ 10,463	$ 22,212	$ 37,515
Collection System Upgrades (Other Capital Improvements)	$ 42,695	$ 30,860	$ 9,065	$ 24,367	$ 55,364
TOTAL BASE CAPITAL PROJECTS	**$ 340,529**	**$ 345,637**	**$ 350,822**	**$ 356,084**	**$ 359,645**
PROPOSED YEARLY BUDGET* **	**$ 340,529**	**$ 345,637**	**$ 350,822**	**$ 356,084**	**$ 359,645**

MAJOR CAPITAL IMPROVEMENTS

Underground Infrastructure Replacements	$ 1,064,625	$ 1,064,625	$ 1,064,625	$ 1,064,625	$ 1,064,625
Water Storage Tank Rehabilitation - Union Street	$ -	$ 930,000	$ -	$ -	$ -
Water Storage Tank Rehabilitation - High Street	$ -	$ -	$ 565,000	$ -	$ -
Water Storage Tank Rehabilitation - Turnpike	$ -	$ -	$ -	$ 600,000	$ -
SUBTOTAL MAJOR PROJECTS	**$ 1,064,625**	**$ 1,994,625**	**$ 1,629,625**	**$ 1,664,625**	**$ 1,064,625**
Suez Administration 15%	**$ 159,694**	**$ 299,194**	**$ 244,444**	**$ 249,694**	**$ 159,694**
TOTAL MAJOR PROJECTS	**$ 1,224,319**	**$ 2,293,819**	**$ 1,874,069**	**$ 1,914,319**	**$ 1,224,319**
TOTAL CAPEX	**$ 1,564,847**	**$ 2,639,456**	**$ 2,224,891**	**$ 2,270,403**	**$ 1,583,964**

NOTES:
*All costs in 2018 Dollars
** Costs are indicated in years that Capital expenses are expected to be made
*** Proposed Yearly Budget assumes a 1.5% increase from the previous year

2018 PROJECT DESCRIPTION AND JUSTIFICATIONS/CRITERIA

BASE CAPTIAL PROJECTS			Justification	
Project Location	**Project Cost**	**Description of Work**	Be developed on the basis of regulatory and industry standards pursuant to which assets are evaluated and catalogued based on condition, criticality , cost, risk of failure and consequence of failure and safety	Prioritize maintenance and capital expenditures so as to extend the useful life of the System and the components thereof
Emergency Lighting Replacement Project	$ 2,100	To complete the project as per the contract. Project is for the replacement and the addition of emergency lighting fixtures at the WWTP Buildings and Well Sites. This would bring building up to code with the following; The International Building Code - IBC 2009; NFPA 101 - Life Safety Code; NFPA 70 - National Electrical Code; NFPA 820 - Standard for Fire Protection in Wastewater Treatment and Collection Facilities	X	X
Biofilter Media Replacement Project	$ 100,000	Upgrades and improvements to the Biomedia Filter Equipment and appurtenances and replacement of filter media.	X	X
SNDR Pump Rebuild Project	$ 35,237	The existing SNDR volute has failed and has been repaired for temporary service. Needs to be replaced to reduce risk of failure and process upset. Project will furnish and install a new stainless steel volute.	X	X
Headworks Wet Well Pump and Tank Rehabilitation Project	$ 58,000	Project to rehabilitate and convert one (1) existing raw sewage pump with an external cooling water jacket due to issues encountered with grit entering the pump housing and to rehabilitate the existing wet well tank.	X	X
Sanitary Sewer Collection System Rehabilitation Plan	$ 7,453	Professional Engineering Services to prepare a Sewer System Performance and Rehabilitation Plan using results of CCTV inspections, operational experience, backups data and spot inspections by O&M staff.	X	X
Water and WWTP Capital Improvement Plan	$ 9,953	Professional Engineering Services to develop a Performance and Rehabilitation Plan for the water supply and distribution system and the WWTP.	X	X
WWTP Equipment Upgrades (Other Capital Improvements)	$ 34,176	Upgrades and improvements to the WWTP Equipment and appurtenances	X	X
Water System Upgrades (Other Capital Improvements)	$ 27,581	Upgrades and improvements to the Water System Equipment and appurtenances	X	X
Transmission & Distribution System Upgrades (Other Capital Improvements)	$ 23,334	Repairs and upgrades to the T&D System	X	X
Collection System Upgrades (Other Capital Improvements)	$ 42,695	Repairs and upgrades to the Collection System	X	X
Total:	**$ 340,529**			

MAJOR CAPTIAL IMPROVEMENT PROJECTS			Major Capital Improvement Criteria			
Project Location	**Project Cost**	**Description of Work**	Estimated cost in excess of $500,000	Written opinion of an Engineering Firm, constitutes an expansion to or renewal, replacement or betterment of the Utility System	Has a useful life of at least five years AND OR are in close geographic proximity and are reasonably related to each other from an engineering, efficiency or functional perspective	Such capital improvements are undertaken to replace water mains or sewer lines and construction of each such capital improvement commences in the same calendar year
Underground Infrastructure Replacements	$ 1,064,625	Water Main Replacement/Rehabilitation of 2500 LF/yr as per the Concession/Operating Agreement. The 2500 LF to be replaced/rehabilitated would be based on the Water main matrix developed in 2015 and the annual water system performance and rehabilitation plan. AND Sanitary Sewer Collection System Improvements 1,000 LF/yr (Main & Manhole Rehabilitation). The 1000 LF would be based on the annual Sewer System Performance and Rehabilitation Plan. CCTV areas are based on the collection system matrix developed in 2015.	X	X	X	X
Total:	**$ 1,064,625**					

2019 PROJECT DESCRIPTION AND JUSTIFICATIONS/CRITERIA

BASE CAPTIAL PROJECTS			Justification	
Project Location	**Project Cost**	**Description of Work**	Be developed on the basis of regulatory and industry standards pursuant to which assets are evaluated and catalogued based on condition, criticality , cost, risk of failure and consequence of failure and safety.	Prioritize maintenance and capital expenditures so as to extend the useful life of the System and the components thereof
SNDR Pump Replacement Project	$ 47,803	Project to procure a new SNDR pump to serve as a spare pump.	X	X
Headworks Wet Well Pump and Tank Rehabilitation Project	$ 20,000	Project to rehabilitate and convert one (1) existing raw sewage pump with an external cooling water jacket due to issues encountered with grit entering the pump housing and to rehabilitate the existing wet well tank.	X	X
Sanitary Sewer Collection System Rehabilitation Plan	$ 10,000	Professional Engineering Services to prepare a Sewer System Performance and Rehabilitation Plan using results of CCTV inspections, operational experience, backups data and spot inspections by O&M staff.	X	X
Water and WWTP Capital Improvement Plan	$ 10,000	Professional Engineering Services to develop a Performance and Rehabilitation Plan for the water supply and distribution system and the WWTP.	X	X
Well No. 4 Rehabilitation Project	$ 50,000	Well No. 4 is losing capacity, the project will entail the rehabilitation of the pump and screen.	X	X
Arc Flash Study	$ 40,250	Installation of signage and improvements to Electrical controls, equipment and appurtenances to meet NFPA and IBC standards.	X	X
Fire Alarm System Project	$ 30,000	Installation and improvements to install fire detection equipment and appurtenances to meet NFPA and IBC standards. Project to be phased over 2 years.	X	X
WWTP Equipment Upgrades (Other Capital Improvements)	$ 32,826	Upgrades and improvements to the WWTP Equipment and appurtenances	X	X
Water System Upgrades (Other Capital Improvements)	$ 42,663	Upgrades and improvements to the Water System Equipment and appurtenances	X	X
Transmission & Distribution System Upgrades (Other Capital Improvements)	$ 31,235	Repairs and upgrades to the T&D System	X	X
Collection System Upgrades (Other Capital Improvements)	$ 30,860	Repairs and upgrades to the Collection System	X	X
Total:	**$ 345,637**			

MAJOR CAPTIAL IMPROVEMENT PROJECTS			Major Capital Improvement Criteria			
Project Location	**Project Cost**	**Description of Work**	Estimated cost in excess of $500,000	Written opinion of an Engineering Firm, constitutes an expansion to or renewal, replacement or betterment of the Utility System	Has a useful life of at least five years AND OR are in close geographic proximity and are reasonably related to each other from an engineering, efficiency or functional perspective	Such capital improvements are undertaken to replace water mains or sewer lines and construction of each such capital improvement commences in the same calendar year
Underground Infrastructure Replacements	$ 1,064,625	Water Main Replacement/Rehabilitation of 2500 LF/yr as per the Concession/Operating Agreement. The 2500 LF to be replaced/rehabilitated would be based on the Water main matrix developed in 2015 and the annual water system performance and rehabilitation plan. AND Sanitary Sewer Collection System Improvements 1,000 LF/yr (Main & Manhole Rehabilitation). The 1000 LF would be based on the annual Sewer System Performance and Rehabilitation Plan. CCTV areas are based on the collection system matrix developed in 2015.	X	X	X	X
Water Storage Tank Rehabilitation - Union Street	$ 930,000	For painting the interior and exterior of the Water Storage Tank. The tank has exceeded it's paint life and may start to affect water quality going forward.	X	X	X	X
Total:	**$ 1,994,625**					

2020 PROJECT DESCRIPTION AND JUSTIFICATIONS/CRITERIA

BASE CAPTIAL PROJECTS			Justification	
Project Location	**Project Cost**	**Description of Work**	Be developed on the basis of regulatory and industry standards pursuant to which assets are evaluated and catalogued based on condition, criticality , cost, risk of failure and consequence of failure and safety.	Prioritize maintenance and capital expenditures so as to extend the useful life of the System and the components thereof
Sanitary Sewer Collection System Rehabilitation Plan	$ 10,000	Professional Engineering Services to prepare a Sewer System Performance and Rehabilitation Plan using results of CCTV inspections, operational experience, backups data and spot inspections by O&M staff.	X	X
Water and WWTP Capital Improvement Plan	$ 10,000	Professional Engineering Services to develop a Performance and Rehabilitation Plan for the water supply and distribution system and the WWTP.	X	X
Ventilation of ATAD Building Project	$ 30,000	Due to the heat given off by the ATAD Pump and SNDR Pump, this project is to improve the ventilation of the building to keep the motor control panels and control panels from over heating.	X	X
Fire Alarm System Project	$ 91,250	Installation and improvements to install fire detection equipment and appurtenances to meet NFPA and IBC standards. Project to be phased over 2 years.	X	X
Sodium Hypochlorite Tank Conversion Project	$ 141,750	To convert the existing Chlorine Gaseous system to a Hypochlorite system. Project has been designed and permitted. Bids were receive in 2015 but due to the delay this should be re-bid or updated. Project to phased over 2 years	X	X
SCADA Upgrade Project	$ 24,000	To combine the water SCADA System with the Wastewater SCADA System.	X	X
WWTP Equipment Upgrades (Other Capital Improvements)	$ 13,309	Upgrades and improvements to the WWTP Equipment and appurtenances.	X	X
Water System Upgrades (Other Capital Improvements)	$ 10,985	Upgrades and improvements to the Water System Equipment and appurtenances.	X	X
Transmission & Distribution System Upgrades (Other Capital Improvements)	$ 10,463	Repairs and upgrades to the T&D System.	X	X
Collection System Upgrades (Other Capital Improvements)	$ 9,065	Repairs and upgrades to the Collection System.	X	X
Total:	**$ 350,822**			

MAJOR CAPTIAL IMPROVEMENT PROJECTS			Major Capital Improvement Criteria			
Project Location	**Project Cost**	**Description of Work**	Estimated cost in excess of $500,000	Written opinion of an Engineering Firm, constitutes an expansion to or renewal, replacement or betterment of the Utility System	Has a useful life of at least five years AND OR are in close geographic proximity and are reasonably related to each other from an engineering, efficiency or functional perspective	Such capital improvements are undertaken to replace water mains or sewer lines and construction of each such capital improvement commences in the same calendar year
Underground Infrastructure Replacements	$ 1,064,625	Water Main Replacement/Rehabilitation of 2500 LF/yr as per the Concession/Operating Agreement. The 2500 LF to be replaced/rehabilitated would be based on the Water main matrix developed in 2015 and the annual water system performance and rehabilitation plan. AND Sanitary Sewer Collection System Improvements 1,000 LF/yr (Main & Manhole Rehabilitation). The 1000 LF would be based on the annual Sewer System Performance and Rehabilitation Plan. CCTV areas are based on the collection system matrix developed in 2015.	X	X	X	X
Water Storage Tank Rehabilitation - High Street	$ 565,000	For painting the interior and exterior of the Water Storage Tank. The tank has exceeded it's paint life and may start to affect water quality going forward.	X	X	X	X
Total:	**$ 1,629,625**					

2021 PROJECT DESCRIPTION AND JUSTIFICATIONS/CRITERIA

BASE CAPTIAL PROJECTS			Justification	
Project Location	**Project Cost**	**Description of Work**	Be developed on the basis of regulatory and industry standards pursuant to which assets are evaluated and catalogued based on condition, criticality , cost, risk of failure and consequence of failure and safety.	Prioritize maintenance and capital expenditures so as to extend the useful life of the System and the components thereof
Sanitary Sewer Collection System Rehabilitation Plan	$ 10,000	Professional Engineering Services to prepare a Sewer System Performance and Rehabilitation Plan using results of CCTV inspections, operational experience, backups data and spot inspections by O&M staff.	X	X
Water and WWTP Capital Improvement Plan	$ 10,000	Professional Engineering Services to develop a Performance and Rehabilitation Plan for the water supply and distribution system and the WWTP.	X	X
Centrifuge Rehabilitation Project	$ 50,000	The centrifuge is experiencing performance issues; the project will entail the inspection and rehabilitation of the existing centrifuge.	X	X
Well No. 3 Stripping Tower Rehabilitation Project	$ 15,000	The project will entail the rehabilitation of the existing stripping tower, replacement of the media and the relocation of the blowers inside the building.	X	X
Sodium Hypochlorite Tank Conversion Project	$ 121,250	To convert the existing Chlorine Gaseous system to a Hypochlorite system. Project has been designed and permitted. Bids were receive in 2015 but due to the delay this should be re-bid or updated. Project to phased over 2 years	X	X
SCADA Upgrade Project	$ 24,000	To combine the water SCADA System with the Wastewater SCADA System.	X	X
ATAD & SNDR Reactors Instrumentation Replacement Project	$ 14,500	The project will entail the procurement and installation of a new radar gauge, float switch with stainless steel bracket, and a new pressure transducer.	X	X
Biosolids Processing Instrumentation Replacement Project	$ 6,500	The project will entail the procurement and installation of new level probes.	X	X
Oxidation Ditch Instrumentation Replacement Project	$ 15,000	The project will entail the procurement and installation of an ultrasonic level probe and a DO probe.	X	X
Scum Pump Station Instrumentation Replacement Project	$ 2,300	The project will entail the procurement and installation of a new low level float switch.	X	X
WWTP Equipment Upgrades (Other Capital Improvements)	$ 19,290	Upgrades and improvements to the WWTP Equipment and appurtenances.	X	X
Water System Upgrades (Other Capital Improvements)	$ 21,665	Upgrades and improvements to the Water System Equipment and appurtenances.	X	X
Transmission & Distribution System Upgrades (Other Capital Improvements)	$ 22,212	Repairs and upgrades to the T&D System.	X	X
Collection System Upgrades (Other Capital Improvements)	$ 24,367	Repairs and upgrades to the Collection System.	X	X
Total:	**$ 356,084**			

MAJOR CAPTIAL IMPROVEMENT PROJECTS			Major Capital Improvement Criteria			
Project Location	**Project Cost**	**Description of Work**	Estimated cost in excess of $500,000	Written opinion of an Engineering Firm, constitutes an expansion to or renewal, replacement or betterment of the Utility System	Has a useful life of at least five years AND OR are in close geographic proximity and are reasonably related to each other from an engineering, efficiency or functional perspective	Such capital improvements are undertaken to replace water mains or sewer lines and construction of each such capital improvement commences in the same calendar year
Underground Infrastructure Replacements	$ 1,064,625	Water Main Replacement/Rehabilitation of 2500 LF/yr as per the Concession/Operating Agreement. The 2500 LF to be replaced/rehabilitated would be based on the Water main matrix developed in 2015 and the annual water system performance and rehabilitation plan. AND Sanitary Sewer Collection System Improvements 1,000 LF/yr (Main & Manhole Rehabilitation). The 1000 LF would be based on the annual Sewer System Performance and Rehabilitation Plan. CCTV areas are based on the collection system matrix developed in 2015.	X	X	X	X
Water Storage Tank Rehabilitation - Turnpike	$ 600,000	For painting the interior and exterior of the Water Storage Tank. The tank has exceeded it's paint life and may start to affect water quality going forward.	X	X	X	X
Total:	**$ 1,664,625**					

2022 PROJECT DESCRIPTION AND JUSTIFICATIONS/CRITERIA

BASE CAPTIAL PROJECTS			Justification	
Project Location	**Project Cost**	**Description of Work**	Be developed on the basis of regulatory and industry standards pursuant to which assets are evaluated and catalogued based on condition, criticality , cost, risk of failure and consequence of failure and safety.	Prioritize maintenance and capital expenditures so as to extend the useful life of the System and the components thereof
Sanitary Sewer Collection System Rehabilitation Plan	$ 10,000	Professional Engineering Services to prepare a Sewer System Performance and Rehabilitation Plan using results of CCTV inspections, operational experience, backups data and spot inspections by O&M staff.	X	X
Water and WWTP Capital Improvement Plan	$ 10,000	Professional Engineering Services to develop a Performance and Rehabilitation Plan for the water supply and distribution system and the WWTP.	X	X
Well No. 3 Stripping Tower Rehabilitation Project	$ 110,000	The project will entail the rehabiliation of the existing stripping tower, replacement of the media and the relocation of the blowers inside the building.	X	X
Blower Building Instrumentation Replacement Project	$ 6,500	The project will ential the procurement and installation of a new pressure transmitter.	X	X
SCADA Upgrade Project	$ 24,000	To provide continued support of the software and/or license agreements for the combined SCADA System.	X	X
WAS Storage Tank Instrumentation Replacement Project	$ 13,000	The project will ential the procurement and installation of a new ultrasonic level transmitter and a level sensor transmitter.	X	X
Headworks Instrumentation Replacement Project	$ 6,500	The project will ential the procurement and installation of a new level transmitter with a stainless steel mounting bracket.	X	X
WWTP Equipment Upgrades (Other Capital Improvements)	$ 42,861	Upgrades and improvements to the WWTP Equipment and appurtenances	X	X
Water System Upgrades (Other Capital Improvements)	$ 43,905	Upgrades and improvements to the Water System Equipment and appurtenances	X	X
Transmission & Distribution System Upgrades (Other Capital Improvements)	$ 37,515	Repairs and upgrades to the T&D System	X	X
Collection System Upgrades (Other Capital Improvements)	$ 55,364	Repairs and upgrades to the Collection System	X	X
Total:	**$ 359,645**			

MAJOR CAPTIAL IMPROVEMENT PROJECTS			Major Capital Improvement Criteria			
Project Location	**Project Cost**	**Description of Work**	Estimated cost in excess of $500,000	Written opinion of an Engineering Firm, constitutes an expansion to or renewal, replacement or betterment of the Utility System	Has a useful life of at least five years AND OR are in close geographic proximity and are reasonably related to each other from an engineering, efficiency or functional perspective	Such capital improvements are undertaken to replace water mains or sewer lines and construction of each such capital improvement commences in the same calendar year
Underground Infrastructure Replacements	$ 1,064,625	Water Main Replacement/Rehabilitation of 2500 LF/yr as per the Concession/Operating Agreement. The 2500 LF to be replaced/rehabilitated would be based on the Water main matrix developed in 2015 and the annual water system performance and rehabilitation plan. AND Sanitary Sewer Collection System Improvements 1,000 LF/yr (Main & Manhole Rehabilitation). The 1000 LF would be based on the annual Sewer System Performance and Rehabilitation Plan. CCTV areas are based on the collection system matrix developed in 2015.	X	X	X	X
Total:	**$ 1,064,625**					

LETTER OF INTEREST RF-LOI# 2019-01
CITY OF HARRISBURG, PA
WATER AND WASTEWATER SYSTEM ACQUISITION

ATTACHMENT 3

PROFESSIONAL PROFILE

Mr. Albertson has over 29 years of experience in the water industry with much of it focused in the field of operations and asset management of water and wastewater systems. His experience includes capital investment planning/delivery, process/ technology, regulatory business, evaluations, design, procurement/contracting, construction management, startup, and operations. Mr. Albertson's range of projects includes facilities up to 200-mgd and individual capital projects over $100 million with various project delivery methods including traditional design-bid-build, design-build and design-build-operate.

EDUCATION

M.S., Environmental Engineering, Manhattan College

B.S., Civil Engineering, University of Hartford

CERTIFICATIONS & PROFESSIONAL AFFILIATIONS

Professional Engineer, State of New Jersey (#GE38950)

Member, American Water Works Association

Member, Water Research Foundation

Member, Design Build Institute of America

Member, National Association of Water Companies

Member, International Water Association

Professional Experience

Senior Vice President, Business Development
SUEZ North America

- Responsible for all business development activities for SUEZ North America including organic growth and new acquisitions in the U.S. and Canada
- Responsible for external relations with multilateral agencies and industry groups in the water sector

Senior Vice President, Engineering & Technical Solutions
SUEZ in North America

- Responsible for all aspects of the operations support group for SUEZ in North America. This included managing technical support to operations and business development, capital planning, research and innovation, quality management, sustainable development and technical training

Vice President, Business Development
SUEZ in North America

- Responsible for managing the company's team of project and business developers across the U.S. to support the Corporate Commercial Development goals.
- Responsible for managing the program of opportunities and developing competitive strategies for new business
- Responsible for the development of large and strategic project such as integrated Design/Build/Operate projects and fostering the teaming relationships with business partners
    - Evaluating project leads and opportunities and presenting them for consideration,
    - Responsible for building project teams with engineering and construction partners and developing and negotiating teaming agreements and memorandums of understanding,
    - Responsible for identifying project risks impacts and management solutions
    - Managed the development of project costs and the interface with financial modeling of the project, including presenting investment committee document and obtaining all company approvals.

Vice President, Capital Investment Planning and Delivery
SUEZ in North America

- Responsible for asset management activities in all SUEZ companies, consisting of a $2B asset base that serves water to 7 million people in the U.S.
- Responsible for the delivery the $200M/year capital program and overall leadership to the Engineering group
- Responsible for the delivery of the following projects:
  - Haverstraw Water Treatment Plant (NY) - $80M
  - Haworth Plant Upgrade (NJ) - $100M
  - Rockland County Water Supply Program (NY) - $10M
  - Toms River Water Supply Improvement Program (NJ) - $30M
  - Delaware Pump Station Program (NY) - $50M
  - Hummelstown WTP (PA) - $15M
  - Sixth Street WTP Upgrade (PA) - $10M
  - Franklin Lakes Water Supply (NJ) - $10M
  - Lake DeForest WTP Upgrade (NY) - $10M
  - Springfield WWTP Upgrades (MA) - $4M
  - Columbia WTP (ID) - $20M
- Steering Committee member for the SUEZ R+i Alliance that delivers over $10M per year in water research and development
- Provided expert testimony to support legal activities and utility rate filings

Senior Manager, Technical Services
SUEZ in North America

- Responsible for engineering and technical service for municipal water and wastewater treatment systems, including due diligence, research and development, proposal development, engineering evaluations, on-site pilot testing, troubleshooting of operational issues, optimization of processes, improving process control, and assessing compliance risks.
- Planned and implemented capital improvements, including the preparation of capital improvement plans, preparing conceptual designs and specifications, soliciting and evaluating bids, managing engineering staff and outside consultants, construction management, start-up, transitions, and training.
- Developed and managed large Design-Build-Operate project opportunities, including the review, identification, assessment, and allocation of project risks, establishing teaming relationships with partners and sub-contractors, managing corporate resources for technical evaluations of potential technologies, managing corporate resources for legal and financial assistance, and managing proposal preparation.

Senior Project Manager
Montgomery Watson

- Responsible for engineering and project management for public and private water utilities.
- Projects ranged from consulting studies and pilot testing, to detailed engineering designs and construction administration.

Xavier Castro | VICE PRESIDENT, NORTHEAST SERVICES

PROFESSIONAL PROFILE

Mr. Castro has 23 years of professional experience with expertise in operations, financial and strategic planning, auditing, performance measurement, M&A, turn-around and strategy implementation. Throughout his career, he has led diverse, cross-cultural teams in launching major business transformation initiatives to support revenue growth and value creations.

EDUCATION

TRIUM Global Executive MBA,
3 degrees from NYU Stern, London School of Economics and HEC Paris

Corporate Finance,
EDHEC Graduate Business School

Professional Experience

Vice President, Northeast Services (2017 – present)
SUEZ in North America; Paramus, NJ

- Responsible for managing 36 operations and maintenance contracts in NY, NJ, PA, CT, RI, MA and NH
- Full P&L responsibility. Scope: $170M and 600 employees

General Manager, Long Island Operations (2016 – 2017)
SUEZ in North America; Nassau County, NY

- Responsible for managing the 20-year contract with Nassau County, the largest Public-Private Partnership in the Group; $65M annual revenue and 200 employees; operation and maintenance of the County's entire wastewater system
- Led operations and administration of all support functions: HR, EHS, Finance, Communications, Client Relations/External Affairs and Contract Management
- Successfully turned around contract operations and restored profitability ($3M EBIT increase)

Vice President & Chief Financial Officer, Environmental Services (2010 – 2015)
SUEZ in North America; Paramus, NJ

- Managed engineering staff of eight people in two offices (Parsippany, NJ and Philadelphia, PA). Responsible for staff development, recruiting, workload balancing and performance reviews. Simplified and implemented new employee performance plan which allowed staff to develop relevant goals and track progress and accomplishments. Mentored both senior and junior staff in developing marketing and technical skills, which improved staff performance
- Led finance, accounting, IT and procurement functions of a $300M revenue segment with 1,200 employees
- Act as Segment President's deputy and designated signing authority. Leadership role in Operations Management Committee. Deliver executive presentations monthly to Corporate and Shareholder constituents
- Led turn-around effort in order to improve segment performance and restore profitability, while enhancing the control environment. Action plan generated $10M savings and reestablished profitability through following actions:
  - Developed a strategic analysis demonstrating gaps in profitability of low-revenue contracts (<$1M)
  - Led the resulting asset rotation program through the divestment of 70 low-revenue contracts while integrating 2 recent acquisitions: standardization of analytical tools, streamlining of processes and reorganization of financial and operational teams generating a 30% SGA reduction
  - Increased contract renewal rate by 10% by fully redesigning renewal process
- Project Manager for multifaceted 15M$ finance reengineering project across North American Operations
  - Upgrade of current ERP (PeopleSoft)
  - Implementation of 2 new ERPs for Asset Management (PowerPlan) and Planning & Reporting (Hyperion)
  - Revamping of financial platforms to streamline efficient processing

Executive Director Financial Planning (2007 – 2009)
SUEZ in North America; Paramus, NJ

- Significantly improved operating and financial performance by designing and implementing a disciplined performance management system which enabled executive management and board of directors to make informed business decisions during a period of significant growth (revenue increased from $500M to $850M)
- Acted as the primary liaison between North America and the shareholders in France regarding financial matters
- Served as general secretary of the Investment Committee reviewing all significant investment opportunities
- Supervised the financial planning and reporting for Mexican operations ($100M revenue)

Director Financial Planning (2006 – 2007)
SUEZ in North America; Paramus, NJ

- Directed the budgeting and forecasting processes company wide
- Redesigned reporting to executive management, board of directors and shareholder in France
- Reduced lead time in monthly reporting from 30 to 5 days by developing automated KPIs

Strategic Planning Manager (2003 – 2006)
Aguas Argentinas; Buenos Aires, Argentina

- Assisted CEO in redesigning the subsidiary's business model following the 2001/2002 financial crisis (peso devaluation) and consequent breach of the concession contract:
- Supported the 2-year-long attempt by the company to renegotiate the contract with the Argentinean government
  - Identification and valuation of the different scenarios for the contract renegotiation
  - Preparation of the official proposals submitted to the Argentinean Government
  - Participation in the negotiations with the Union
- Developed and implemented the exit plan due to failed renegotiation and contract termination

Corporate Auditor (2000 – 2003)
Ondeo; Paris, France

- Performed worldwide audits throughout the various business units of the Group in order to assist the Corporate Management in its understanding of operations and their accounting and financial impacts:
  - Accounting and Financial audits of Business Units (France, Argentina, Chile, Bolivia, Puerto Rico)
  - Due diligence, target valuation and post-acquisition audits (United States, Mexico, Brazil, Cameroon, Vietnam)
  - Thematic audits (impact of the Argentinean peso devaluation, look-back analysis of projects,
- Headed the assignments in the Latin America region, leading cross cultural and functional teams

Commercial Controller, Gemey Division (1999 – 2000)
L'Oreal; Paris, France

- Supported key account managers in the commercial negotiations with distributors

Financial Controller
Laboratoires Fournier; Lisbon, Portugal (1995 – 1999)

- Financial Controller of the business unit in its start-up phase. Extensive hands-on role

PROFESSIONAL PROFILE

Mr. Chandler is a certified water and wastewater operator in multiple states. He has more than 30 years of experience in all aspects of managing water and wastewater treatment facilities and collection systems, including capital improvement programs and managing complex consent decrees. He brings significant incinerator experience, having operated and managed a 24 tons/day incinerator for the City of Battle Creek, MI. Mr. Chandler has managed projects across the central and eastern U.S. working with clients, regulators and staff to provide comprehensive operations and maintenance of water and wastewater projects. Mr. Chandler has access to approximately 3,000 certified operators, technicians and managerial resources from other SUEZ projects that will be brought to bear on the Harrisburg project.

EDUCATION

AS, Criminal Justice,
Kellogg Community College

CERTIFICATIONS & PROFESSIONAL AFFILIATIONS

Wastewater Treatment Plant Operator, Michigan, Class A

Sewage System Operator, Class C, Texas

Associated Board of Certification Class IV Wastewater Operator

Michigan Water Environment Association

Great Lakes By-Products Management Association

Contract Operations Experience

Vice President of Project Development, SUEZ North America
Paramus, NJ

- Full P&L responsibility for water and wastewater contract operations throughout the United States
- Functions as primary company liaison with investment and management partners in company's concession contracts
- Played key role in the development of an innovative concession model to help cities throughout the U.S. address the challenge of aging water and sewer systems under severe economic constraints
- Led restructuring of contract services portfolio and organization to increase focus on high-value contracts, client service and financial performance. Included divestiture and seamless transition of approximately 70 small contracts to regional operating companies over a six-month period, as well as a strategic communications plan to both internal and external stakeholders

City of Battlecreek, Wastewater Operations
Battlecreek, MI

- Operations supervisor responsible for planning, scheduling, directing and controlling all related activities in the 30-mgd wastewater treatment plant to ensure optimum efficiency. Oversaw the operation and maintenance of approximately 450 miles of sewer collection and drainage piping, 94 lift stations, and 20 drainage ponds.

Vice President
BioTech Agronomics

- Responsible for all business development and environmental compliance for the corporation. Worked with generators and growers to develop and implement programs for the beneficial reuse of biosolids, residuals and byproducts.
- Also responsible for ensuring environmental rules and regulations were strictly adhered to by the company. Chairman of the Michigan Water Environment Association (MWEA) regulatory affairs committee. In that capacity, coordinates

with MDEQ, USEPA, MSU, MDA and other stakeholders to provide public education and sustain rules and regulations that promote beneficial reuse of all residuals and byproducts in the Midwest.

- Served on the Board of Directors for the Great Lakes By-Products Association, a regional organization focused on conducting research for the promotion of the beneficial reuse in the Midwest.

President
Inland Environmental Services

- Responsible to carry out strategic plans and organizational missions as established by the board of directors. Provided oversight for the operations, managed human resources, implemented plans of the organization, managed financial and physical resources, fostered a culture that promoted teamwork, and ensured company employees were highly motivated.

Multiple Clients

- Managed main control system for two 120-MGD wastewater facilities and 150-T/D sludge incineration facility
- Executive vice president responsible for oversight of all aspects of contract operations projects worldwide and ensured the optimal operation and maintenance of all systems under contract to Earth Tech. Maintained ongoing communications with each client and assumed responsibility for completion of all contractual obligations.

Project Manager
City of Battle Creek, Sludge Disposal Operations, Battle Creek, MI

- Project manager for contract operations services for the city's sludge disposal operation. Services included project management of personnel, laboratory, maintenance, hands-on operation, safety training, implementation and training of the maintenance management system including corrective and preventive maintenance scheduling, and development of spare parts inventory.

Utility System Operator
San Leon Municipal Utility District, Texas

- Responsible for oversight of the installation of a new water and sewer system, development of a utility billing system, the operation and maintenance of a 1.0 mgd activated sludge wastewater treatment plant, 300 miles of collection system, and six lift stations. Additional duties included operation and maintenance of a 1200 connection water distribution system, limited treatment groundwater production, and pumping station.

Director of Environmental Services Department
City of Grand Rapids, Wastewater Treatment Plant, Grand Rapids, MI

- Responsible for management of the 90-mgd wastewater treatment plant, storm water retention facilities, industrial pretreatment program, storm water management program, sanitary sewer collection system, and the air quality group. Following a comprehensive evaluation of all areas of operation, implemented numerous cost savings programs that resulted in approximately $500,000 of annual cost savings. Responsible for the city's combined sewer overflow (CSO) abatement program, including a $100 million storm water separation project. Represented the city in negotiations with MDEQ on the first round of storm water NPDES permits issued in the state.

Project Director
City of Franklin, Design-Build-Finance-Operate Drinking Water Production Facility, Franklin, OH

- Project director for the first public sector privatization project in the United States. This project involved partnering of a private sector design-build-operate company and the city of Franklin. The city was faced with intense regulatory pressure to build a new iron removal system for their public drinking water system. However, faced with not only the financial challenges of making a large up-front capital investment, but also the challenge of hiring experienced operators, the city chose to look to the private sector. The team entered into a 20-year contract with the city to design, build, finance, and operate the iron removal plant. Essentially private sector financing was used for the capital

investment, with an agreement with the firm to operate the facility for 20 years. This arrangement has proven to be very beneficial for all parties and has served as a template for many other municipalities throughout the nation.

Project Director

Guam Waterworks Authority, Design-Build-Finance-Operate Water Production Facility, Guam

- Project director for the design, construct, finance, and operations of a drinking water production system for the government of Guam. The Guam Waterworks Authority (GWA) faced the challenge of consistently producing enough water to meet the system needs during periods of peak demand. During these times, many customers simply could not be provided water. The GWA lacked the financial resources to "front end" the necessary capital to upgrade their system. The team developed a program to provide the necessary project financing, design and construct the water production system, and entered into a 20-year operations and maintenance contract.

Township of Berkley Heights, Operation and Maintenance 8-MGD Wastewater Treatment Plant, Berkley Heights, NJ

- Led a technical team that assumed responsibility for the operation and maintenance of the WWTP facility. The Berkley Heights WWTP had invested $20 million in upgrades to the wastewater treatment facility. However, despite this significant investment, the facility was not able to achieve compliance with the ammonia nitrogen NPDES permit limits. Consequently, the New Jersey Department of Environmental Protection (NJDEP) issued fines for noncompliance that totaled $200,000 per year and required the facility to enter into a consent order. The team conducted an extensive evaluation of the system and implemented a new process control strategy. Within 30 days, the facility was meeting effluent ammonia nitrogen requirements. In fact, the new process control strategy took advantage of nitrification using the biological organisms, and the chemical lime system was subsequently shut down. Process enhancements not only achieved full compliance but also resulted in significant operational cost savings for the township.

Project Manager

City of Battle Creek, Solids Handling Facility Operation and Maintenance, Battle Creek, MI

- Responsible for the operation, maintenance and management of the city's 24-tpd solids handling facility. This system included dissolved air flotation thickeners for waste activated sludge, a gravity thickener for primary sludge, belt filter presses, vacuum filters, and sludge incinerators. The City had disposed of its solids through land application until a neighboring community filed a suit against the City for nuisance odors resulting from inadequately stabilized sludge stored on the WWTP site. As a result, the City was forced to discontinue their land application program and to start up its incineration process. At the onset of this assignment, the equipment was in a state of disrepair and on-site sludge storage was full. Mr. Chandler assembled a team of operation and maintenance specialists to aggressively overhaul the critical equipment that had failed and process the backlogged sludge. Once biosolids volumes were reduced and major equipment repairs were completed, a comprehensive rehabilitation and preventive maintenance program was implemented. This resulted in stabilized operations and significantly reduced O&M costs.

City of Battle Creek, Comprehensive Evaluation of Biosolids Disposal Alternatives, Battle Creek, MI

- Directed development of a comprehensive evaluation of long-term biosolids disposal alternatives for the Battle Creek wastewater treatment plant. The city had previously engaged in a land application program disposing of dewatered filter cake on nearby agricultural land. However, due to odor complaints from neighboring communities, the city temporarily suspended the land application program and began incineration of the sludge. Recognizing this method of ultimate disposal was very expensive, the city contracted to conduct a comprehensive study of long-term biosolids disposal alternatives. Numerous disposal options were evaluated, resulting in a short list of three desired alternatives: in-vessel composting, lime stabilization and land application, and alkaline stabilization using cement kiln dust. In concert with city staff, obtained MDEQ approval for pilot studies on use of cement kiln dust with filter cake and liquid land application with lime stabilization. Upon MDEQ approval, directed both pilot studies and, based on the pilot study conclusion, assisted the city in implementing a liquid land application program, which has resulted in over $1 million savings annually.

City of Battle Creek, Design, Build, Operate Belt Filter Presses, Battle Creek, MI

- Directed a comprehensive mechanical evaluation of the city's biosolids handling facilities. It was determined that two of the existing vacuum filters could not be cost effectively rehabilitated. Additionally, the operation and maintenance cost for the vacuum filters was significantly more than for the belt presses. Recommended demolition of the vacuum filters and installation of two new belt filter presses. Oversaw the project performed on a turnkey basis, including demolition, design, installation and operation of the new units. This project was completed within six months and the city realized savings of $300,000 annually.

Wurtsmith AFB, Lagoon Cleaning and Land Application, Oscoda, MI

- Directed removal and land application of biosolids from the Wurtsmith AFB wastewater lagoons, including crop planting and harvesting. Under the Base Realignment and Closure (BRAC) program, Wurtsmith AFB was deactivated and use of the wastewater lagoons was discontinued. However, prior to closure, the Air Force required removal and disposal of all accumulated biosolids. Since the ultimate lagoon use was undetermined, the Air Force required the biosolids removal be accomplished without damaging lagoon liners. Modified biosolids removal equipment and developed a unique process to remove the biosolids, while protecting the polyvinyl liner. Approximately one million gallons of biosolids were removed and land applied to nearby agricultural land. Additionally, directed the planting and harvesting of the crop in subsequent years.

City of League City, Dewatering and Disposal of Wastewater Treatment Plant Biosolids, League City, TX

- Directed disposal of the biosolids from four wastewater treatment plants serving the city. At the Dallas Salmon facility, biosolids were dewatered using belt filter presses and landfilled. The other facilities used drying beds and the residuals were land applied to local agricultural land. Additionally, the final effluent from the Dallas Salmon WWTP was pumped to local golf courses for irrigation. Coordinated with the Texas Department of Public Health and the agricultural customers to ensure the success of the programs. Chief operator in a 22.5-mgd activated sludge, tertiary wastewater treatment plant. Directed operation and maintenance of the Dallas Salmon wastewater facility plus three satellite facilities serving the city's outlying areas and approximately 750 miles of collection system, including 24 lift stations. Directed biosolids management programs for all city wastewater facilities.

City of Alpena, Land Application of Wastewater Treatment Plant Biosolids, Alpena, MI

- Directed development and pursuit of regulatory approval for a unique biosolids disposal alternative that included a full-scale pilot test. Digested biosolids from the Alpena WWTP were surfaced applied on a local cement company's kiln dust disposal site to enhance re-vegetation and eliminate an adverse environmental situation. A reduction in biosolids hauling costs by the client and re-vegetation costs by the industry was realized. For this effort, the city received the National Environmental Protection Agency Beneficial Biosolids Reuse Award.

PROFESSIONAL PROFILE

EDUCATION

B.A., Communication Arts,
Marist College; Poughkeepsie, NY

Mr. Riat has over 21 years of experience in the water industry including the management of both utility and contract operations. He is responsible for some of SUEZ' most complex contract operations, including Jersey City, Hoboken, Rahway, Orange, Kearny and Bayonne, NJ where SUEZ' SOLUTION[SM] business model has been implemented with great success. As one of the firm's most senior professionals, he serves as a strategic advisor for the contracts he oversees while also serving as a primary contact with clients, federal and state agencies, industry groups and various stakeholders.

Professional Experience

General Manager, New Jersey Contract Operations
SUEZ in North America

- Oversees contract operations in the New Jersey region, including Jersey City, Hoboken, Rahway, Orange, Kearny and Bayonne, which collectively provides water services to 500,000 people
- Bayonne, NJ: Concession with Kohlberg Kravis Roberts & Co. where SUEZ provides O&M to city's water and wastewater system including management of $2.5-million capital improvement program, customer service, metering, billing and collections
  - Mr. Riat lead SUEZ-KKR team, which was recognized as Partnership Performance of the Year at the 2012 American Water Summit
  - Other achievements include: City's improved credit rating; concession model chosen as innovative performance by Clinton Global Initiative; and Gold award for "Best Water or Wastewater Project" at 2014 P3 Awards
- Recently lead successful transitions in Kearny (2015) and Bayonne (2012)
- Manages external relations with multilateral government agencies, private equity and industry groups in the water sector

Vice President, Business Technology Integration
SUEZ in North America

- As Business Lead for SUEZ' IT Master Plan, responsibilities included identifying and implementing software solutions across functions and operations, throughout business units. By pairing previous operations experience with overall master planning skills, Mr. Riat identified the most relevant software solutions to upgrade internal systems and streamline processes. Challenge was implementing a business solution upgrade for an enterprise-wide Customer Information System (CIS). This CIS solution would be integrated with enterprise-wide GIS across 20 business units. Once integrated with Work and Asset Management an enterprise-wide view of performance would be possible.
- Actionable information in the hands of operations and customer management, resulting in better field response times and improved customer service as well as improved transparency across departments for more timely field status
- Fact based enterprise-wide asset maintenance and management strategies

Manager, Westchester Utility Operations; New Rochelle, NY
SUEZ in North America

- Direct responsibility for all facets of water utility general management. Responsibilities included the operation and management of a water utility providing service to approximately 140,000 people in southern Westchester County, NY. Mr. Riat was directly responsible for capital delivery of the Delaware Pump Station, a $40 million pumping and water conditioning facility, and an annual capital expense budget of $15 million
- Managed an effective organization to ensure the provision of high-quality water service at lowest possible cost. Supervised and developed strategic plans, operating plans and the utility master plan.
- Developed and maintained sound regulatory, governmental, media, community and customer and employee relations programs.

Vice President, Business Development
SUEZ in North America

- Enterprise-wide responsibilities include the development and implementation of strategy to achieve the growth and economic performance objectives of the Company. Responsible for managing the growth initiatives for both the utility and environmental services business divisions, increasing revenues through stable, risk appropriate contracts while respecting the shared values of SUEZ and its parent company.
- Responsibilities include the development and implementation of strategy to achieve the growth and economic performance objectives. Works closely with the General Managers and Project Managers to ensure a common best practices approach to business development and customer relationship management.

Director, Project Development
SUEZ in North America

- Responsibilities include managing development of proposals for delegated water and wastewater services and business acquisitions including: coordination of due diligence activities and technical approach, project finance analysis, risk assessment, and evaluation of human resource and transition requirements. Responsible for securing parent company approval and funding for projects within the United States and Canada.
- Proposal development for the world's largest water and wastewater public/private partnership valued at over $3.8 billion.
- Proposal development for water and wastewater public/private partnership valued at over $92 million.

Director, Business Development
Earth Tech Inc.; Long Beach, CA

- Recruited by executive management to open a Total Water Management presence in the Southeast. Planned and executed strategies for immediate growth in the region. Efforts were focused on design/build/operate opportunities.
- Challenged to expand Earth Tech's contract operations business into larger-scale, full-service concession and long-term contract operations.
- $8 million Design/Build wastewater project
- $13 million Design/Build/Operate wastewater project

Mid-Atlantic Region Sales Manager
Ogden Waste Treatment Services Inc.; Fairfield, NJ

- Direct Responsibility for the supplemental waste program for three waste-to-energy facilities representing over 5,000 tons per day of disposal capacity. Direct supervision of marketing, technical and customer service support personnel, face-to-face marketing of disposal services and contract negotiations of service agreements
- Executed a three-year commitment contract representing an anticipated value of $500,000 per year
- Negotiated a three-year commitment contract representing an anticipated value of over $600,000 per year.

Business Development Manager

Ogden Waste Treatment Services Inc.; Fairfield, NJ

- Assist in all activities of the start-up company. Early efforts concentrated on pursuing contract operation projects through competitive procurement. Designed, wrote and edited company marketing documents including business proposals. Implemented and managed marketing programs.
- Later responsible for domestic full-service privatization and project development efforts. Lead proposal and project development team for several water and wastewater procurements and sole source project developments.
- Worked in country on winning bid for large South America DBO water project
- Successfully coordinated and lead project teams of various disciplines
- Highly effective in face-to-face marketing of full-service privatization to municipal officials and staff

Biography

John Hollenbach

Vice President & General Manager – Mid-Atlantic Operations

John Hollenbach serves as vice president and general manager for SUEZ utility operations in the Mid-Atlantic. In this position, he oversees the operations of six utilities in South Jersey, Pennsylvania and Delaware. He is responsible for the safe and reliable treatment and delivery of potable water to over 170,000 people in Monmouth, Ocean and Middlesex counties in New Jersey, 166,000 people in eight counties throughout Pennsylvania, and over 100,000 people in Delaware.

John has 41 years of experience in the water industry. He previously served as general manager, SUEZ' Missouri operations (formerly United Water). Prior to that, John served in roles of increasing responsibility for General Waterworks in Pennsylvania, Arkansas and Delaware before it was acquired by United Water in 1994.

John holds a B.S. in environmental engineering from Pennsylvania State University. He is a Registered Professional Engineer in Pennsylvania and Delaware.

John Hollenbach

Vice President & General Manager – Mid-Atlantic Operations

Joined SUEZ
1979

Previous positions:
SUEZ North America
- Vice President – PA and DE
  1999 – 2012
- General Manager – Missouri Operations
  1996 –1999

General Waterworks
- Assistant Manager – DE
  1990 – 1995
- Engineer – DE
  1989 – 1990
- Assistant Manager – AK
  1985 – 1987
- Engineer – PA
  1979 – 1985

Achievements & Professional Affiliations
- Registered Professional Engineer (PA, DE)
- Board Member, NAWC PA
- Member, AWWA
- AWWA Committee Member, Water for People

Education:
B.S., Environmental Engineering

KKR Principals of JV:

Ken Mehlman joined KKR in 2008 and is a Member, Global Head of Public Affairs & Co-Head of KKR Global Impact. Since joining KKR, Ken has helped identify investment opportunities & assess and improve the companies in which KKR invests by engaging stakeholders & leveraging geopolitical, public policy & ESG trends. KKR Global Impact is the firm's private market investing platform focused on businesses that promote commercial solutions to global issues associated with economic development, environmental management, next generation energy, agricultural and food production, responsible land use and education & learning. Mr. Mehlman architected KKR's responsible investment efforts that seek to create shared value for KKR investors and other stakeholders. This includes a partnership with the Environmental Defense Fund that now includes more than 58 KKR portfolio companies; the hiring of more than 62,500 veterans in KKR portfolio companies; and a wellness collaboration with the American Heart Association benefitting 250,000 employees. Ken also oversees the firm's global external affairs, including corporate marketing, regulatory affairs & public policy, and communications. Mr. Mehlman spent a dozen years in national politics and government service, including as 62nd Chairman of the Republican National Committee and Campaign Manager of President Bush's 2004 re-election campaign, the only Republican presidential campaign in 30 years to win the popular vote. Mr. Mehlman also served in high level positions in Congress and the White House. Mr. Mehlman graduated with a B.A. from Franklin & Marshall College and holds a J.D. from Harvard Law School. He is Chairman of the Chan Zuckerberg Initiative Policy Advisory Board and a trustee of Mt. Sinai Hospital of New York, Franklin & Marshall College, Teach for America, and Sponsors of Educational Opportunity (SEO). Mr. Mehlman is also co-chairman of the American Enterprise Institute's National Council and a member of the Council on Foreign Relations.

Robert Antablin joined KKR in 2005 and is Co-Head of KKR Global Impact, the firm's private market investing platform focused on businesses that promote commercial solutions to global issues associated with economic development, environmental management, next generation energy, agricultural and food production, responsible land use and education and learning. Mr. Antablin currently serves on the boards of directors of Joulon, Monterra Energy, and Resource Environmental Solutions. Mr. Antablin has been an active investor in the Energy and Environmental sectors over the years, previously serving as Head of KKR's Americas Energy Private Equity effort and establishing KKR's operations in Houston. Prior to joining KKR, Mr. Antablin was with Goldman, Sachs & Co. in New York. Mr. Antablin holds a B.S. with highest distinction, Phi Beta Kappa, from the Schreyer Honors College of the Pennsylvania State University. Mr. Antablin is also an active civic supporter and serves as a board member of the Hermann Park Conservancy.

LETTER OF INTEREST RF-LOI# 2019-01
CITY OF HARRISBURG, PA
WATER AND WASTEWATER SYSTEM ACQUISITION

ATTACHMENT 4

DEVELOPMENT AND EVALUATION OF ALTERNATIVES FOR LONG TERM CONTROL PLANNING FOR COMBINED SEWER SYSTEMS - REGIONAL REPORT

Submitted on behalf of the following participating Permittees
By the Passaic Valley Sewerage Commission:

Passaic Valley Sewerage Commission (NJ 0021016)
City of Bayonne (NJ0109240)
Borough of East Newark (NJ0117846)
Town of Harrison (NJ0108871)
Jersey City Municipal Utilities Authority (JCMUA) (NJ0108723)
Town of Kearny (NJ0111244)
City of Newark (NJ0108758)
North Bergen Municipal Utilities Authority (NBMUA) (NJ0108898)
City of Paterson (NJ0108880)

Passaic Valley Sewerage Commission
Essex County
600 Wilson Avenue
Newark, New Jersey

"Protecting Public Health and the Environment"

June 2019

SECTION A - INTRODUCTION AND BACKGROUND

A.0 SUMMARY OF CHANGES

This is the Regional Report for the Development and Evaluation of Alternatives for Long Term Control Planning for Combined Sewers to be utilized by the Passaic Valley Sewerage Commission ("**PVSC**"), later referred to as this Report, and the entities who own and operate combined sewer collection systems within the PVSC Treatment District. This Report describes the receiving water characterization including water quality results, technology screening process, and the evaluation of combined sewer overflow ("CSO") control alternatives for the PVSC Treatment District. This Report compiles the results of the nine (9) individual Development and Evaluation of Alternatives Reports for the PVSC Treatment District. In future versions, this section will include summaries of changes and when they were incorporated as appropriate.

A.1 TITLE OF PLAN AND APPROVAL

Title: Development and Evaluation of Alternatives Regional Report

Preparer:

Project Officer: _____ 6/25/19
Michael J. Hope, P.E., Greeley and Hansen LLC — Date

QA Officer: _____ 6/25/2019
Timothy J. Dupuis, P.E., CDM Smith — Date

Passaic Valley Sewerage Commission:

PVSC
Program Manager: _____ 06/25/2019
Bridget McKenna, Chief Operating Officer, PVSC — Date

PVSC
QA Officer: Marques Eley 6/25/2019
Marques Eley, Senior Engineer, PVSC — Date

New Jersey Department of Environmental Protection

DEP Permits: _____
Joseph Mannick, CSO Coordinator — Date

DEP QA: _____
Marc Ferko, Office of Quality Assurance — Date

Development and Evaluation of Alternatives Regional Report

Submitted by
Passaic Valley Sewerage Commission:

NJPDES Number NJ0021016 (Passaic Valley Sewerage Commission)

Approval of this submittal:

Permittee: _____ 06/25/2019

Bridget McKenna — Date
Chief Operating Officer, Passaic Valley Sewage Commission

NJPDES Certification:

Without prejudice to any objections timely made to permit conditions, I certify under penalty of law that this document and all attachments were prepared either: (a) under my direction or supervision; or (b) as part of a cooperative performed by members of the NJ CSO group effort in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for purposely, knowingly, recklessly, or negligently submitting false information.

Permittee: _____ 06/25/2019

Bridget McKenna — Date
Chief Operating Officer, Passaic Valley Sewage Commission

Development and Evaluation of Alternatives Regional Report

Submitted on behalf of the following participating Permittee by Passaic Valley Sewerage Commission:

NJPDES Number NJ0109240 (Bayonne City)

Approval of this submittal:

Permittee: _____ 6.25.19

Timothy Boyle Date
Superintendent, City of Bayonne Department of Public Works

NJPDES Certification:

Without prejudice to any objections timely made to permit conditions, I certify under penalty of law that this document and all attachments were prepared either: (a) under my direction or supervision; or (b) as part of a cooperative performed by members of the NJ CSO group effort in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for purposely, knowingly, recklessly, or negligently submitting false information.

Permittee: _____ 6.25.19

Timothy Boyle Date
Superintendent, City of Bayonne Department of Public Works

Development and Evaluation of Alternatives Regional Report

Submitted on behalf of the following participating Permittee by Passaic Valley Sewerage Commission:

NJPDES Number NJ0117486 (East Newark)

Approval of this submittal:

Permittee: _____ 6/24/19

Frank Pestana — Date
Licensed Operator, Borough of East Newark

NJPDES Certification:

Without prejudice to any objections timely made to permit conditions, I certify under penalty of law that this document and all attachments were prepared either: (a) under my direction or supervision; or (b) as part of a cooperative performed by members of the NJ CSO group effort in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for purposely, knowingly, recklessly, or negligently submitting false information.

Permittee: _____ 6/24/19

Frank Pestana — Date
Licensed Operator, Borough of East Newark

Development and Evaluation of Alternatives Regional Report

Submitted on behalf of the following participating Permittee by Passaic Valley Sewerage Commission:

NJPDES Number NJ0108871 (Harrison)

Approval of this submittal:

Permittee: _____ 6/25/19

Rocco Russomano — Date
Town Engineer, Town of Harrison

NJPDES Certification:

Without prejudice to any objections timely made to permit conditions, I certify under penalty of law that this document and all attachments were prepared either: (a) under my direction or supervision; or (b) as part of a cooperative performed by members of the NJ CSO group effort in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for purposely, knowingly, recklessly, or negligently submitting false information.

Permittee: _____ 6/25/19.

Rocco Russomano — Date
Town Engineer, Town of Harrison

Development and Evaluation of Alternatives Regional Report

Submitted on behalf of the following participating Permittee by Passaic Valley Sewerage Commission on behalf of the NJ CSO Group

NJPDES Number NJ0108723 (Jersey City MUA)

Approval of Report:

Permittee: 6/26/19

Rich Haytas
Senior Engineer, Jersey City MUA
Date

NJPDES Certification:

Without prejudice to any objections timely made to permit conditions, I certify under penalty of law that this document and all attachments were prepared either: (a) under my direction or supervision; or (b) as part of a cooperation performed by members of the NJ CSO group effort in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for purposely, knowingly, recklessly, or negligently submitting false information.

Permittee: 6/26/19.

Rich Haytas
Senior Engineer, Jersey City MUA
Date

Development and Evaluation of Alternatives Regional Report

Submitted on behalf of the following participating Permittee by Passaic Valley Sewerage Commission:

NJPDES Number NJ0111244 (Kearny)

Approval of this submittal:

Permittee: _____ 9/25/19

Robert J. Smith — Date
Town Administrator, Town of Kearny

NJPDES Certification:

Without prejudice to any objections timely made to permit conditions, I certify under penalty of law that this document and all attachments were prepared either: (a) under my direction or supervision; or (b) as part of a cooperative performed by members of the NJ CSO group effort in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for purposely, knowingly, recklessly, or negligently submitting false information.

Permittee: _____ 9/25/19

Robert J. Smith, — Date
Town Administrator, Town of Kearny

Disclaimer: The Town of Kearny has completed and participated in the production of this document as required by the Town's individual New Jersey Pollutant Discharge Elimination System (NJPDES) permit (NJPDES Permit No. NJ0111244). At this time, the Town of Kearny is not committing the current governing body of the Town, or future governing bodies, to the allocation of funds based on the costs presented in this report to complete projects related to the control of combined sewer overflows (CSOs).

Development and Evaluation of Alternatives Regional Report

Submitted on behalf of the following participating Permittee by Passaic Valley Sewerage Commission:

NJPDES Number NJ0108758 (Newark)

Approval of this submittal:

Permittee: _____

Ras J. Baraka Date
Mayor, City of Newark

NJPDES Certification:

Without prejudice to any objections timely made to permit conditions, I certify under penalty of law that this document and all attachments were prepared either: (a) under my direction or supervision; or (b) as part of a cooperative performed by members of the NJ CSO group effort in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for purposely, knowingly, recklessly, or negligently submitting false information.

Permittee: _____

Ras J. Baraka Date
Mayor, City of Newark

Development and Evaluation of Alternatives Regional Report

Submitted on behalf of the following participating Permittee by Passaic Valley Sewerage Commission:

NJPDES Number NJ0108988 (North Bergen Municipal Utilities Authority)

Approval of this submittal:

Permittee: _____ 6/24/19

Frank Pestana Date
Executive Director, North Bergen Municipal Utilities Authority

NJPDES Certification:

Without prejudice to any objections timely made to permit conditions, I certify under penalty of law that this document and all attachments were prepared either: (a) under my direction or supervision; or (b) as part of a cooperative performed by members of the NJ CSO group effort in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for purposely, knowingly, recklessly, or negligently submitting false information.

Permittee: _____ 6/24/19

Frank Pestana Date
Executive Director, North Bergen Municipal Utilities Authority

Development and Evaluation of Alternatives Regional Report

Submitted on behalf of the following participating Permittee by Passaic Valley Sewerage Commission:

NJPDES Number NJ0108880 (Paterson)

Approval of this submittal:

Permittee: _____

William Rodriguez Date
Director of Public Works, City of Paterson

NJPDES Certification:

Without prejudice to any objections timely made to permit conditions, I certify under penalty of law that this document and all attachments were prepared either: (a) under my direction or supervision; or (b) as part of a cooperative performed by members of the NJ CSO group effort in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for purposely, knowingly, recklessly, or negligently submitting false information.

Permittee: _____

William Rodriguez Date
Director of Public Works, City of Paterson

A.2 DISTRIBUTION LIST

Passaic Valley Sewerage Commission
Bridget McKenna, Chief Operating Officer
Patricia Lopes, Director of Process Control Engineering and Regulatory Compliance
Marques Eley, PE, Senior Engineer

Participating Permittees:

Bayonne:	Timothy Boyle, Superintendent of Public Works
East Newark:	Frank Pestana, Licensed Operator
Harrison:	Rocco Russomano, Town Engineer
Jersey City:	Rich Haytas, Senior Engineer
Kearny:	Robert J. Smith, Town Administrator
Newark:	Ras J. Baraka, Mayor of Newark
North Bergen:	Frank Pestana, Executive Director
Paterson:	Manny Ojeda, Director of Public Works

New Jersey Department of Environmental Protection
Dwayne Kobesky, Surface Water Permitting
Joseph Mannick, Surface Water Permitting
Marc Ferko, Office of Quality Assurance

A.3 PROGRAM CONTACT INFORMATION

Contact information for those parties involved in the System Characterization Report is as follows:

Bridget McKenna
Chief Operating Officer
PVSC
600 Wilson Avenue
Newark, NJ 07105

Marques Eley
Senior Engineer
PVSC
600 Wilson Avenue
Newark, NJ 07105

Patricia Lopes
Director of Process Control and Regulatory Compliance
PVSC
600 Wilson Avenue
Newark, NJ 07105

Michael J. Hope
Greeley and Hansen LLC
1700 Market Street
Suite 2130
Philadelphia, PA 19103

Timothy J. Dupuis
CDM Smith
77 Hartland Street
Suite 201
East Hartford, CT 06108

Dwayne Kobesky
NJDEP Water Quality
Surface Water Permitting
PO Box 420
401 E. State St., 2nd Floor
Trenton, NJ 08625-0420

Joseph Mannick
NJDEP Water Quality
Surface Water Permitting
PO Box 420
401 E. State St., 2nd Floor
Trenton, NJ 08625-0420

Marc Ferko
NJDEP Office of Quality Assurance
PO Box 420
401 E. State St., 2nd Floor
Trenton, NJ 08625-0420

Timothy Boyle
Superintendent Public Works
City of Bayonne
630 Avenue C
Bayonne, NJ 07002

Rocco Russomano
Town Engineer
Harrison Town
318 Harrison Avenue
Harrison, NJ 07029

Rich Haytas
Senior Engineer
Jersey City MUA
555 Route 440
Jersey City, NJ 07305

Robert J. Smith
Town Administrator
Town of Kearny
357 Bergen Avenue
Kearny, NJ 07302

Kareem Adeem
Asst. Director Dept. of Water and Sewer
City of Newark
239 Central Avenue
Newark, NJ 07103

Frank Pestana
Executive Director
North Bergen MUA
6200 Tonnelle Avenue
North Bergen, NJ 07047

Manny Ojeda
Director of Public Works
City of Paterson
111 Broadway, 4th Floor
Paterson, NJ 07505

Frank Pestana
Licensed Operator
East Newark Borough
34 Sherman Avenue East
Newark, NJ 07029

A.4 TABLE OF CONTENTS

List of Tables

List of Figures

Appendices

LETTER OF INTEREST RF-LOI# 2019-01
CITY OF HARRISBURG, PA
WATER AND WASTEWATER SYSTEM ACQUISITION

ATTACHMENT 5

MS4 Applications for existing facilities

SUEZ understands an MS4 is a conveyance or system of conveyances that is:

- Owned by a state, city, town, village, or other public entity that discharges to waters of the U.S.,
- Designed or used to collect or convey stormwater (e.g., storm drains, pipes, ditches),
- Not a combined sewer, and
- Not part of a sewage treatment plant, or publicly owned treatment works (POTW).

To prevent harmful pollutants from being washed or dumped into MS4s, certain operators are required to obtain NPDES permits and develop stormwater management programs (SWMPs). The SWMP describes the stormwater control practices that will be implemented consistent with permit requirements to minimize the discharge of pollutants from the sewer system. A municipality will have a program for their Storm Drain management. This program may include public education on dumping, oil receptors at storm drains, debris capture nets at waterbody discharges, DPW public yards best practices.

While SUEZ has many wastewater public-private partnerships with municipalities across the U.S., we do not hold the MS4 applications. The owned wastewater operation we hold is in Princeton Meadows, NJ. Unfortunately, we do not oversee the MS4 for the Township of Plainsboro, NJ, whom we serve through this utility. We offer up the following documents as evidence that we comply with requirements similar to the MS4:

- Our annually submitted 5G2 Certification Form
- Stormwater Pollution Prevention Plan (SPPP) for SUEZ Princeton Meadows utility
- Evidence of annual training on the SPPP
- Stormwater Permit

We fully meet all regulatory standards throughout our water and wastewater portfolio, both owned and public-private partnership operations, and look forward to meeting the regulatory standards for the City of Harrisburg's wastewater operation.

New Jersey Department of Environmental Protection
Mail Code - 401-02B
Water Pollution Management Element
Bureau of Nonpoint Pollution Control
P.O. Box 420 – 401 E State St
Trenton, NJ 08625-0420
Tel: 609-633-7021 / Fax: 609-777-0432
http://www.state.nj.us/dep/dwq/bnpc_home.htm

5G2 CERTIFICATION FORM

STORMWATER POLLUTION PREVENTION PLAN (SPPP) PREPARATION, IMPLEMENTATION AND ANNUAL CERTIFICATION FOR GENERAL INDUSTRIAL STORMWATER PERMIT NJ0088315

A. NJPDES Permit and Facility Information

(formerly known as SUEZ Water Princeton Meadows)

1. NAME OF FACILITY: SUEZ Water New Jersey-Princeton Meadows Operations	
2. NJPDES No.: NJG0121428	3. PI ID No.: 46800
4. EFFECTIVE DATE OF PERMIT: 02/01/2018	5. CERTIFICATION DUE DATE: APR/MAY/JUNE 2019

B. Applicable Certifications

Please check which certification you are submitting. For Annual Certification, please read and check all statements to ensure that your facility has achieved permit compliance.

☐ **SPPP* Preparation and Implementation Certification – Newly Authorized Facilities**
(Certifies that the SPPP was prepared and implemented within the time frame specified in the permit)

☑ **SPPP* Update Certification – Facilities reauthorized as part of the automatic renewal**
(Certifies that the SPPP was updated to include any new requirements specified in the permit)

☑ **Annual Certification**
(Certifies that an annual inspection was conducted on 6/14/19 and SPPP evaluated in accordance with permit conditions)

For All Permittees

- ☑ The exposure of source material and/or industrial activity to stormwater discharges has been eliminated.
- ☑ The SPPP reflects current site conditions.
- ☑ Monthly maintenance inspections have been performed and recorded.
- ☑ Employee training was conducted.

For MARINAS Only

- ☐ There was no disposal of fish waste into marina waters.
- ☐ BMPs to minimize the potential impact from boat fueling operations have been implemented.
- ☐ All boat maintenance operations were conducted off-site, indoors and/or impervious surfaces that are contained.
- ☐ The discharge of process wastewater from boat washing activities (including, but not limited to, pressure-washing, hydro-blasting, boat bottom washing, vehicle and equipment washing) has been eliminated.
- ☐ Boat owners were educated about the Marina's environmental policies and practices.

* See NJPDES Administrative Update Form for Name Change (submitted to Permit Administration Section 6/12/19)

*Do not submit the actual SPPP with this Certification. The SPPP and **a copy** of the Certification Form are to remain onsite, available for review.

C. Certification Statements

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for purposely, knowingly, recklessly, or negligently submitting false information."

"I certify that the facility is in compliance with its Stormwater Pollution Prevention Plan (SPPP) and the NJPDES Permit."

D. Signatory Requirements

See attached Certification Form instructions for specific signatory requirements.

NAME (Please Print): Theresa R. Sudnik **TITLE:** Superintendent

SIGNATURE: Theresa R. Sudnik **DATE:** 6/14/19

E. Where to Submit

Send the original signed Certification Form to:

New Jersey Department of Environmental Protection
Mail Code: 401-02B
Division of Water Quality
Bureau of Nonpoint Pollution Control
P.O. Box 420
401 E. State Street, 3rd Floor
Trenton, New Jersey, 08625-0420

If you have completed and sent in the Agreement to Do Business Electronically, all permit submittals can be scanned and emailed to Industrialstormwaterpermitting@dep.nj.gov .

CERTIFICATION FORM INSTRUCTIONS

Additional information and copies of the Certification Form and Instructions can be downloaded from the Bureau's website at www.state.nj.us/dep/dwq/bnpc_home.htm or obtained by contacting the Bureau of Nonpoint Pollution Control (BNPC) at (609) 633-7021.

SECTION A - NJPDES Permit and Facility Information

1. Provide the name of the facility. If the name of the facility has changed, submit an Administrative Update Form along with the Certification Form.

2. Provide the facility's NJPDES Permit Number as it appears on the permit authorization page. All NJPDES permit numbers for facilities authorized under a general permit will begin with **NJG** and is different from the NJPDES Permit Number assigned to the master general permit.

3. Provide the PI ID No. as it appears on the permit authorization page.

4. Provide the effective date of permit as it appears on the permit authorization page.

5. Provide the certification due date. The certification due date is the date or calendar quarter and year that the certification is due. The due date is based on the Effective Date of Permit Authorization (EDPA).

TABLE 1 – Certification Due Dates

	SPPP Preparation and Implementation Certification Due Date	SPPP Update Certification Due Date	Annual Certification Due Date
Facilities Reauthorized under Automatic Renewal	--	Due with 1st Annual Certification	Due by the end of the calendar quarter assigned in the authorization page and annually thereafter
Newly Authorized Facilities Facilities receiving authorization for the first time	Within 6 months from EDPA	--	Due by the end of the calendar quarter assigned in the authorization page and annually thereafter

SECTION B – Applicable Certifications

Check the appropriate box to indicate which certification is being submitted. A facility may check multiple boxes. For Annual Certification, please read and check all statements to ensure that your facility has achieved permit compliance.

SECTION C – Certification Statements

Read the certification carefully to ensure that you fully understand what you are certifying and that it is a true and accurate statement.

SECTION D – Signatory Requirements

A Responsible Official is defined in N.J.A.C 7:14A-4.9 as follows:

For a corporation: A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation; or the manager of one or more manufacturing, production, or operating facilities, provided:

(1) The manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of recommending major capital investment, initiating and directing comprehensive measures to assure long term compliance with environmental laws and regulations, and ensuring that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; or

(2) The authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

For a partnership or sole proprietorship: A general partner or the proprietor.

For a government agency: A ranking elected official; or the chief executive officer of the agency; or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator).

A duly authorized representative as defined in N.J.A.C. 7:14A-4.9(b).

SPPP Form 1 – Stormwater Pollution Prevention Team Members

Facility Information

Facility Name: SUEZ Water Princeton Meadows County: Middlesex
NJPDES # : NJG 0121428 PI ID #: 46800
Team Member/Title: Theresa Sudnik / Superintendent
Effective Date of Permit Authorization (EDPA): 2/01/2018 to 1/31/2023
Date of Completion: 3 / 27 / 13 Date of most recent update: 11/20/18

Number of team members may vary.

Facility Contact: Theresa Sudnik
Title: Superintendent
Office Phone #: 609-799-0030 ext 20
Emergency Phone #: 908-489-1052
Responsibilities: Facility Superintendent and Licensed Operator overseeing wastewater treatment plant and sanitary collection system daily operations. Authorized by Company to sign Storm Water Pollution Prevention Plan annual inspection and certification forms. Request expenditures for stormwater improvement projects.

Member: Richard Nabinger
Title: Supervisor
Office Phone #: 609-799-0030 ext 10
Emergency Phone #: 609-937-7222
Responsibilities: Supervise facility operators and maintenance staff workload on a daily basis. Oversee proper implementation of SPPP and BMP corrective actions performed by staff.

Member: Steve Wondrak
Title: Director of Operations
Office Phone #: 201-599-6010
Emergency Phone #: 201-538-0959
Responsibilities: Director of Operations for SUEZ Water Princeton Meadows. Approves Capital and Operating budgets for Stormwater Best Management Projects. Approves engineering help on projects.

Member:
Title:
Office Phone #:
Emergency Phone #:
Responsibilities:

Member:
Title:
Office Phone #:
Emergency Phone #:
Responsibilities:

SPPP Form 2 – Inventory Requirements

Facility Information

Facility Name: SUEZ Water Princeton Meadows County: Middlesex

NJPDES # : NJG 0121428 PI ID #: 46800

Team Member/Title: Theresa Sudnik

Effective Date of Permit Authorization (EDPA): 02/01/2018 to 1/31/2023

Date of Completion: 3/27/13 Date of most recent update: 11/20/18

Inventory of all industrial activities, source materials and non-stormwater discharges. Attach additional pages as necessary.

Please provide a detailed description of all industrial activities conducted at the facility:

SUEZ Water Princeton Meadows is a domestic wastewater treatment plant which serves a portion of Plainsboro Township. There is no industrial activity. Chemicals used to treat the incoming wastewater are delivered by truck via Maple Ave access drive. All chemicals in drums/pails are stored inside. Outside chemical storage tanks are in secondary containment. Grit dumpster is covered and in a bay with drainage back to headworks. Spill Kits are available near chemicals. Treatment Tanks are above flood elevation.

Describe all source materials used, stored, or otherwise located at the facility:

Material (include quantity)	Use	Storage	Handling
Dewatered sludge 20,000 gal	Final Treatment product	Outside-AST w spill prevention	Removed off-site to incineration
Grit&Screenings 20 cu yd	Non-biodegradable products	Outside-Grit dumpster in bay	Removed off-site to landfill
Diesel Fuel 1,500 gal	Emergency generator-fuel	Outside-AST in Containment	Bulk delivery-hose connection
Sodium Hypochlorite 650 gal	Disinfection of Effluent	Inside-AST in containment	Bulk delivery-hose conection
Sodium Bisulfite 500 gal	Dechlorination of Effluent	Inside-DoubleWall Tank	Bulk delivery-hose connection
Aluminum sulfate 6,000 gal	Phosphorus removal in Effluen	Outside-AST in containment	Bulk delivery-hose connection

List all non-stormwater discharges generated at the facility and any appropriate permit authorizing such discharges.

Type of Discharge	NJPDES # or other permit # (if applicable)	Discharge Location
Discharge to Surface Water	NJ0024104	001A Outfall to Cranbury Brook
Discharge To Groundwater	NJ0089711	R01R - Percolation Lagoon

List all other permit approvals issued by the NJDEP for the facility.

Type of Permit	NJDEP Permit #
S3G-Sludge Quality Category 3 (GP) Disposal To off-site incineration	NJG0200654
Effluent Reuse to Golf Course	Included in NJ0024104

SPPP Form 3 – Developing a Site Map

Facility Information

Facility Name: SUEZ Water Princeton Meadows County: Middlesex

NJPDES # : NJG 0121428 PI ID #: 46800

Team Member/Title: Theresa Sudnik / Superintendent

Effective Date of Permit Authorization (EDPA): 02/01/2018 to 1/31/2023

Date of Completion: 3/27/14 Date of most recent update: 11/20/18

Attach a map (preferably drawn to scale) of your site. Existing engineered drawings should be used if available. Hand drawn maps are acceptable if all features are clearly indicated and labeled.

SPPP Form 4 – Best Management Practices

Facility Information

Facility Name: SUEZ Water Princeton Meadows County: Middlesex

NJPDES # : NJG 0121428 PI ID #: 46800

Team Member/Title: Theresa Sudnik / Superintendent

Effective Date of Permit Authorization (EDPA): 02 /01 /2018 to 12/31/2023

Date of Completion: 03/27/13 Date of most recent update: 11/20/18

Describe the BMPs that will be implemented at your facility to eliminate exposure of source material/industrial activity to stormwater and to ensure that the facility does not discharge any unpermitted wastewaters. Include a schedule for full implementation of the BMPs identified. Attach additional pages as necessary.

Source Material / Industrial Activity	Corrective Action / BMP	Scheduled Completion Date(s)
Chemicals	All chemicals are stored inside except alum and diesel fuel which are both stored in closed tanks within secondary containment. Chemical off-loading is observed.	Implemented
Used Oil	Stored inside on secondary containment pallet.	Implemented
Used machinery	Smaller equipment is stored outside on a pallet-under a tarp or under carport to prevent contact with rain until recycled.	Implemented
Dumpster Housekeeping	Debris in the dumpster area is swept up and disposed of in dumpster. Dumpster area is hosed towards the drain within the dumpster bay and discharged back to headworks.	Implemented
Vehicle Washing	Company vehicles (2) are washed within the dumpster bay when the dumpster is removed for disposal at landfill. Drainage is back to headworks.	Implemented
Train Personnel and Truck Drivers	Train facility staff and delivery drivers on BMP's and proper off-loading of chemicals.	Implemented
Tank Inspections	Inspect all chemical and treatment tanks for integrity monthly at a minimum and spot check while conducting daily tasks.	Implemented
Wastewater	Assure NJPDES Permit for treated wastewater discharge and effluent reuse to golf course are adhered to.	Implemented

SPPP Form 5 – Maintenance Plan

Facility Information

Facility Name: SUEZ Water Princeton Meadows County: Middlesex

NJPDES # : NJG 0121428 PI ID #: 46800

Team Member/Title: Theresa Sudnik / Superintendent

Effective Date of Permit Authorization (EDPA): 02 / 01 / 2018 to 1/31/2023

Date of Completion: 3/27/13 Date of most recent update: 11/20/18

Narrative description of structural BMP maintenance, repairs and/or replacement, the updating of non-structural BMPs, and any problematic areas needing special attention. Attach additional pages as necessary.

Describe how your facility will ensure regular, preventative maintenance and appropriate repairs, including replacement, of all structural BMPs and how your facility will update all non-structural BMPs.

The Princeton Meadows facility has (2) storm pipes beneath its driveway to facilitate property drainage. The pipes are checked monthly to assure they are clear for adequate drainage. There are grass swales prior to the drains. About 80% of property is grass. There are no chemicals stored near these pipes. All chemicals are stored indoors unless in containment.

The facility has a concrete bay to store its grit and screenings dumpster. The dumpster is hosed clean within this bay. The bay has a drain which discharges to the head of the treatment works. Company vehicles (2) are hosed clean in this bay when the dumpster is removed for disposal at a landfill. The bay is checked daily.

Chemical storage tank for alum is within secondary containment. The containment is check monthly and by staff. Rainwater is transfered to a nearby clarifier via a pump as needed.

Diesel fuel storage tanks are within secondary containment. The containment is checked monthly by staff. If a sheen exists within the containment the wastewater is vacuumed out using a shop vac and disposed of in a 55-gallon drum until removal off-site by a contractor.

The Sludge Holding Tank has spill containment for the truck hose connection. The containment drains back to the headworks. The containment is checked weekly by staff.

Spill Kits having absorbent booms, speedy dry absorbent, sand and shovels are maintained near all chemicals and oils.

Containment structures are maintained and repaired by staff as needed. If larger repairs are needed, the facility budget for structural improvements will be utilized.

Identify any problematic areas that may require special attention.

SPPP Form 6 – Inspection Schedule

Facility Information

Facility Name: SUEZ Water Princeton Meadows County: Middlesex

NJPDES # : NJG 0121428 PI ID #: 46800

Team Member/Title: Theresa Sudnik / Superintendent

Effective Date of Permit Authorization (EDPA): 02/01/2018 to 1/31/2023

Date of Completion: 3/27/13 Date of most recent update: 11/20/18

Conduct monthly inspections of your entire facility and review your SPPP to ensure that all BMPs are properly implemented and/or maintained. Identify any problems and the corrective action(s) taken. Attach additional pages as necessary.

Date	BMP Properly Implemented/ Maintained?	Problem(s) Found	Steps Taken to Correct the Problem and Date Completed
see SPPP Manual for Inspection Sheets			

SPPP Form 7 – Coordination of SPPP with Other Existing Environmental Management Plans

Facility Information

Facility Name: SUEZ Water Princeton Meadows County: Middlesex

NJPDES # : NJG 0121428 PI ID #: 46800

Team Member/Title: Theresa Sudnik / Superintendent

Effective Date of Permit Authorization (EDPA): 2 /1 /18 to 1/31/2023

Date of Completion: 3/27/13 Date of most recent update: 11/20/18

Evaluate any existing environmental management plans (if applicable) for consistency, and determine if any provisions can be incorporated into the SPPP. Attach additional pages as necessary.

Include, or cite, the location(s) of any Toxic Chemical Release Inventory Form(s) prepared under section 313 in Title III of the Superfund Amendments and Reauthorization Act of 1986, 42 U.S.C. 9601 et seq.

Facility has a SPCC Plan - Spill Control and Countermeasures Plan. Diesel fuel is stored in (2) outside 500 gallon tanks.

Tanks are located within spill containment. Emergency Generator has double-lined storage for 500 gallons diesel fuel.

Include, or cite, the location(s) of any Spill Prevention Control and Countermeasure Plan (SPCC Plan) prepared under 40 CFR 112 and section 311 of the Clean Water Act, 33 U.S.C. 1321.

An SPCC Plan is available for the Princeton Meadows facility and located in the Administration Bldg.

As of November 2013 the facility stores above 1,320 gallons of fuel oil for its emergency generator.

Include, or cite, the location(s) of any discharge prevention, containment and countermeasure plan (DPCC plan) and discharge cleanup and removal plan (DCR plan) prepared under N.J.A.C. 7:1E.

Our facility is not required to prepare DPCC/DCR plans as we do not transfer or process 20,000 gallons or more of

New Jersey - regulated hazardous substances.

Include, or cite, the location (s) of any other environmental management plans (e.g., the Preparedness, Prevention and Contingency Plan and the Occupational Health and Safety Administration (OSHA) Emergency Action Plan).

The Princeton Meadows facility has an Emergency Action Plan which includes spill response actions.

This plan is kept in the Administration Bldg Office along with chemical Safety Data Sheets.

Facility is required to report diesel fuel and alum under to Community Right to Know Act. Annual reports kept in Administration Bldg Office.

SPPP Form 8 – Employee Training

Facility Information

Facility Name: SUEZ Water Princeton Meadows County: Middlesex

NJPDES # : NJG 121428 PI ID #: 46800

Team Member/Title: Theresa Sudnik / Superintendent

Effective Date of Permit Authorization (EDPA): 02/01/18 to 1/31/2023

Date of Completion: 6 / 17 /2016 Date of most recent update: 11/20/18

Conduct an annual Stormwater Pollution Prevention training program for appropriate employees on appropriate topics. Record all training sessions below. Attach additional pages as necessary.

Date	Training Topic	Employees Receiving Training
6/6/18	SPPP - review plan SPPP - review plan map	Theresa Sudnik, Jeff Hagadorn Rick Nabinger, Dave Beaulieu Ed Menges, Karl Witkowski
6/6/18	Good Housekeeping Dumpster Maintenance Vehicle Washing Catch Basin Maintenance	Theresa Sudnik, Jeff Hagadorn Rick Nabinger, Dave Beaulieu Ed Menges, Karl Witkowski
6/6/18	Spill Kits	Theresa Sudnik, Jeff Hagadorn Rick Nabinger, Dave Beaulieu Ed Menges, Karl Witkowski
6/6/18	Chemical storage tanks, diesel tanks, residual and wastewater tanks maintenance and secondary containments	Theresa Sudnik, Jeff Hagadorn Rick Nabinger, Dave Beaulieu Ed Menges, Karl Witkowski
6/6/18	Truck Driver Training - Need for Awareness and Compliance with SPPP	Theresa Sudnik, Jeff Hagadorn Rick Nabinger, Dave Beaulieu Ed Menges, Karl Witkowski

SPPP Form 9 – Annual Inspection Schedule

Facility Information

Facility Name: SUEZ Water Princeton Meadows County: Middlesex

NJPDES # : NJG NJG121428 PI ID #: 46800

Team Member/Title: Theresa Sudnik / Superintendent

Effective Date of Permit Authorization (EDPA): 2/1/2018 to 1/31/2023

Date of Completion: 6 / 25 /2013 Date of most recent update: 11/20/18

Conduct annual inspections to ensure that the SPPP is current and up-to-date, properly implemented and effectively eliminating exposure of source materials and industrial activity to stormwater.

Inspection Date	In Compliance	Out of Compliance
6/25/13	X	
6/19/14	X	
6/12/15	X	
6/17/16	X	
6/8/17	X	
6/6/18	X	

SPPP Form 8 – Employee Training

Facility Information

Facility Name: SUEZ Water Princeton Meadows County: Middlesex

NJPDES # : NJG 121428 PI ID #: 46800

Team Member/Title: Theresa Sudnik / Superintendent

Effective Date of Permit Authorization (EDPA): 02/01/18 to 1/31/2023

Date of Completion: 6 / 17 /2016 Date of most recent update: 06/13/19

Conduct an annual Stormwater Pollution Prevention training program for appropriate employees on appropriate topics. Record all training sessions below. Attach additional pages as necessary.

Date	Training Topic	Employees Receiving Training
6/13/19	SPPP - review plan SPPP - review plan map	Theresa Sudnik, Jeff Hagadorn Rick Nabinger, Dave Beaulieu Ed Menges, Karl Witkowski
6/13/19	Good Housekeeping Dumpster Maintenance Vehicle Washing Catch Basin Maintenance	Theresa Sudnik, Jeff Hagadorn Rick Nabinger, Dave Beaulieu Ed Menges, Karl Witkowski
6/13/19	Spill Kits	Theresa Sudnik, Jeff Hagadorn Rick Nabinger, Dave Beaulieu Ed Menges, Karl Witkowski
6/13/19	Chemical storage tanks, diesel tanks, residual and wastewater tanks maintenance and secondary containments	Theresa Sudnik, Jeff Hagadorn Rick Nabinger, Dave Beaulieu Ed Menges, Karl Witkowski
6/13/19	Truck Drivers - Spill Control Awareness and Compliance with SPPP	Theresa Sudnik, Jeff Hagadorn Rick Nabinger, Dave Beaulieu Ed Menges, Karl Witkowski
6/13/19	NJDEP Powerpoint Presentation on SPP Plan	Theresa Sudnik, Jeff Hagadorn Rick Nabinger, Dave Beaulieu Ed Menges, Karl Witkowski

HR-001 Training Documentation Form

Please complete the form in its entirety.
All participant names on the Training Documentation Form must be entered into the Employee Learn system for accurate employee attendance tracking.
All hard copies of the completed Training Documentation Forms must be kept on site for a minimum of five years.

Title of Training Session: Annual - Stormwater Pollution Prevention Plan Training	**Training Course #:**	**Training BU/ Project Location (please include address if applicable):** SWPM – 31 Maple Avenue, Plainsboro, NJ 08536	
Name of BU/Project Training Coordinator: SUEZ Water New Jersey – Princeton Meadows	**Date of Training:** 6/13/19	**Time (e.g. 8am-4pm):** 1:00 pm – 1:00 pm	**Duration (hours):** 1.0 hrs
Training Instructor: ☒ Internal ☐ External	**Instructor Name:** Edward Menges	**Vendor/Consultant Name and company (if applicable):**	
CEU (if applicable):	**Reason for Training (check all that apply):** ☐ New Information ☐ Recertification ☒ Refresher ☐ Skill Development ☐ Regulatory Requirement		

Participants

#	Employee ID	Name (Print Legibly)	Signature
1	00011701109	Beaulieu, David	
2	00000000377	Hagadorn, Jeff	
3	00001173233	Menges, Ed	
4	00000000505	Nabinger, Rick	
5	00000000801	Sudnik, Theresa	
6	00001176446	Witkowski, Karl	
7			
8			
9			
10			

New Jersey Department of Environmental Protection
Mail Code - 401-02B
Bureau of Nonpoint Pollution Control
Division of Water Quality
PO Box 420 – 401 E State St
Trenton, NJ 08625-0420
Phone: (609) 633-7021
Fax: (609) 777-0432

AUTHORIZATION TO DISCHARGE
5G2 -Basic Industrial Stormwater GP - NJ0088315 (5G2)

Facility Name:

PI ID #: 46800

SUEZ WATER PRINCETON MEADOWS

Facility Address:
31 MAPLE AVE
PLAINSBORO, NJ 08536

NJPDES #: NJG0121428

Annual Recertification Due: Apr - Jun

Type of Activity: Stormwater Discharge General Permit Authorization Renewal

Owner:
SUEZ WATER PRINCETON MEADOWS
PO BOX 336
PLAINSBORO, NJ 08536

Operating Entity:
SUEZ WATER PRINCETON MEADOWS
PO BOX 336
PLAINSBORO, NJ 08536

Issuance Date:	Effective Date:	Expiration Date:
01/24/2018	02/01/2018	01/31/2023

Your Request for Authorization under NJPDES General Permit No. NJ0088315 has been approved by the New Jersey Department of Environmental Protection.

Eleanor Krukowski

_____ **Date:** 01/24/2018

Eleanor Krukowski, Supervisor
Bureau of Nonpoint Pollution Control
Division of Water Quality
New Jersey Department of Environmental Protection

New Jersey Department of Environmental Protection

NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM

The New Jersey Department of Environmental Protection hereby grants you a NJPDES permit for the facility/activity named in this document. This permit is the regulatory mechanism used by the Department to help ensure your discharge will not harm the environment. By complying with the terms and conditions specified, you are assuming an important role in protecting New Jersey's valuable water resources. Your acceptance of this permit is an agreement to conform with all of its provisions when constructing, installing, modifying, or operating any facility for the collection, treatment, or discharge of pollutants to waters of the state. If you have any questions about this document, please feel free to contact the Department representative listed in the permit cover letter. Your cooperation in helping us protect and safeguard our state's environment is appreciated.

Permit Number: NJ0088315

Basic Industrial Stormwater General Permit Renewal

Permittee:
NJPDES Master General Permit Program Interest
Category 5G2
Per Individual Notice of Authorization
Division of Water Quality
401-02B; P.O. Box 420
401 East State Street
Trenton, NJ 08625

Co-Permittee:

Property Owner:
NJPDES Master General Permit Program Interest
Category 5G2
Per Individual Notice of Authorization
Division of Water Quality
401-02B; P.O. Box 420
401 East State Street
Trenton, NJ 08625

Location Of Activity:
NJPDES Master General Permit Program Interest
Category 5G2
Per Individual Notice of Authorization
Division of Water Quality
401-02B; P.O. Box 420
401 East State Street
Trenton, NJ 08625

Authorization(s) Covered Under This Approval	Issuance Date	Effective Date	Expiration Date
Basic Industrial Stormwater General Permit – NJ0088315 (5G2)	12/24/2018	02/01/2018	01/31/2023

By Authority of:
Commissioner's Office

DEP AUTHORIZATION
Eleanor Krukowski, Supervisor
Bureau of Nonpoint Pollution Control
Water Pollution Management Element

(Terms, conditions and provisions attached hereto)

Division of Water Quality

TABLE OF CONTENTS

PART 1

NARRATIVE REQUIREMENTS

Basic Industrial Stormwater General Permit – NJ0088315 (5G2)

A. Permit Scope

1. Geographic Area

a. The Basic Industrial Stormwater General Permit applies to all areas of the State of New Jersey.

2. Authorized Discharges

a. The Basic Industrial Stormwater General Permit ("permit") authorizes:

i. Industrial stormwater discharges to the surface and/or ground waters of the State ("waters of the State") from facilities that can eliminate the exposure of source materials and/or industrial activity to stormwater discharges, as defined in Part 1.J.

B. Eligibility

1. Eligibility for Authorization

a. This permit authorizes facilities with potential discharges of stormwater associated with industrial activity to waters of the State that can eliminate the exposure of source materials and/or industrial activity to stormwater discharges, except for the following:

i. Stormwater discharges subject to federal effluent guideline limitations for stormwater (see 40 CFR, Chapter I, Subchapter N);

ii. Stormwater discharges authorized under another New Jersey Pollutant Discharge Elimination System (NJPDES) Discharge to Surface Water (DSW) or Discharge to Ground Water (DGW) permit (including an expired permit), or combined with domestic wastewater or process wastewater prior to treatment;

iii. Stormwater discharges that require authorization under NJPDES Permit No. NJ0088323 (a separate general permit for stormwater discharges from certain construction activities);

iv. Stormwater discharges from facilities with active "sanitary landfills" as defined in N.J.A.C. 7:26-1.4 or hazardous waste landfills subject to N.J.A.C. 7:26G, unless those landfills have been closed in compliance with N.J.A.C. 7:26-2A.9 (the Solid Waste rules) or N.J.A.C. 7:26G (the Hazardous Waste rules), the appropriate certifications have been submitted in accordance with N.J.A.C. 7:26 or N.J.A.C. 7:26G, and the landfills are not disrupted in a manner that exposes solid waste to the stormwater discharge and/or the landfill is not disrupted. Such closed landfills are eligible for authorization under this permit; and

v. Stormwater discharges from projects or activities that conflict with an adopted WQM plan.

b. Facilities which are not eligible for authorization under this permit should contact the Bureau of Nonpoint Pollution Control at (609) 633-7021 to discuss other permitting options.

C. Summary of Permit Requirements

1. Eliminate Exposure

a. Every facility authorized under this permit shall eliminate the exposure of source materials and/or industrial activity to stormwater discharges as required in Part 1.D.

2. Prepare and Implement a Stormwater Pollution Prevention Plan (SPPP)

a. Newly authorized facilities shall prepare and implement a SPPP that contains the contents required in Part 1.E.

b. Facilities being reauthorized as part of the automatic renewal shall update their SPPP to include all contents required in Part 1.E.

3. Conduct Annual Inspections

a. Facilities shall conduct annual self-inspections, as required in Part 1.F, to ensure that they are in compliance with their SPPP and that their BMPs are effectively eliminating the exposure of source materials and/or industrial activity to stormwater discharges.

4. Submit Certifications

a. SPPP Preparation and Implementation Certification

i. Newly Authorized Facilities shall submit the Department's Certification Form, certifying that they have prepared and implemented a SPPP within the time frame specified in Part 1.G.

ii. Facilities being reauthorized as part of the automatic renewal shall submit the Department's Certification Form, certifying that they have updated their SPPP with their Annual Certification as specified in Part 1.G.

b. Annual Certification

i. Annually, facilities shall submit the Department's Certification Form certifying that they have conducted an annual self-inspection and that they are in compliance with all permit conditions as required in Part 1.G.

D. Eliminate Exposure

1. SPPP General Requirements

a. Every facility authorized under this permit shall eliminate the exposure of source materials and/or industrial activity to stormwater discharges through the preparation and implementation of a SPPP that includes the contents required in Part 1.E.

b. The SPPP shall accurately reflect and account for all facility operations that generate industrial stormwater discharges to the waters of the State.

c. The SPPP shall be signed, dated and retained onsite and available for Department Inspection.

2. Amendments to the SPPP

a. Changes to facility operations shall be reflected in the SPPP to ensure that the facility continues to eliminate the exposure of source materials and/or industrial activity to stormwater discharges.

b. Any amended SPPP shall be resigned, dated and retained onsite and available for Department Inspection.

3. Obligation to provide copies and/or allow review of the SPPP

a. The permittee shall provide a copy of the SPPP and the certifications required by the permit to the owner(s) of the facility.

b. The permittee shall make the SPPP available or provide a copy upon request to the owner and/or operator of any municipal separate storm sewer system through which the industrial stormwater is discharged.

c. The permittee shall make the SPPP available or provide a copy upon request to an authorized representative of the Department.

i. Upon review by an authorized representative, the Department may notify the permittee at any time that the SPPP does not meet one or more of the permit requirements.

ii. Within thirty (30) days after receiving such notification (unless otherwise specified by the Department), the SPPP shall be amended to adequately address all deficiencies.

E. Contents of a Stormwater Pollution Prevention Plan

1. Inventory Requirements

a. Include a detailed description of all source materials used, stored, or otherwise located at the facility and all industrial activities conducted at the facility, including seasonal activities that are exposed to stormwater runoff.

b. Include a list of any domestic sewage, non-contact cooling water, equipment and vehicle wash wastewater, or process waste water (including but not limited to leachate, contact cooling water, pressure-wash wastewater, hydro-blasting wastewater, boat bottom wash wastewater, vehicle and equipment wash wastewater) other than stormwater, which is generated at the facility and discharged through separate storm sewers to surface waters, or discharges to ground water.

i. For discharges identified above, list any final or draft NJPDES permits, pending NJPDES permit applications, or pending requests for authorization under another general NJPDES permit (including the NJPDES permit number where available).

c. Include a list of all other permit approvals issued by the NJDEP for the facility for the activities listed above (i.e. air, solid waste, land use, etc.).

2. Mapping Requirements

a. Include a map (drawn to scale) of the entire facility that contains the following:

i. the property boundary;

ii. the location(s) of existing buildings and other permanent structures;

iii. all paved areas, including roads and access areas;

iv. stormwater control features including but not limited to drainage patterns, stormwater conveyances (e.g. stormwater catch basins, downspouts [where there is industrial activity on the roof], overland flow, swales, ditches and channels, and storm sewer pipes), designed stormwater basins (e.g. infiltration, detention, retention) and the location of all stormwater discharge structures;

v. the location(s), if any, where sanitary sewage, non-contact cooling water, equipment and vehicle wash wastewater, or process wastewater (including but not limited to leachate, contact cooling water, pressure-wash wastewater, hydro-blasting wastewater, boat bottom wash wastewater, vehicle and equipment wash wastewater) generated by the facility enters a storm water conveyance that discharges to waters of the State; and

vi. the delineation of the areas regulated by this permit, including all source material storage areas and industrial activities conducted onsite.

3. Best Management Practices

a. Include a list of the BMPs that are implemented at the facility in the areas regulated by this permit as identified in the mapping requirements in E.2 above to eliminate the exposure of source materials and/or industrial activity to stormwater discharges.

4. Maintenance Plan

a. Include a plan that ensures regular, preventative maintenance and appropriate repairs, including replacement of all structural BMPs and the updating of non-structural BMPs such as Standard Operating Procedures (SOPs).

5. Inspection Schedule

a. Monthly maintenance inspections shall be conducted to ensure that all BMPs identified in the SPPP are being properly implemented and/or maintained.

b. Record any problems identified and the corrective action(s) implemented.

c. All monthly inspection records shall be maintained onsite and available for Department Inspection.

d. Annual inspections shall be conducted in accordance with Section F.

6. Additional Requirements

a. The SPPP shall include (or cite the location of) the following requirements, if applicable:

i. any spill reports prepared under section 313 in Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986, 42 U.S.C. 9601 et seq;

ii. any Spill Prevention Control and Countermeasure Plan (SPCC Plan) prepared under 40 CFR 112 and section 311 of the Clean Water Act, 33 U.S.C. 1321; any Discharge Prevention, Containment and Countermeasure Plan (DPCC Plan); and Discharge Cleanup and Removal Plan (DCR Plan) prepared under N.J.A.C. 7:1E; and

iii. for any industrial stormwater discharges through a municipal separate storm sewer system that has a final NJPDES discharge permit, compliance with all applicable requirements of the municipal stormwater program developed under that permit.

7. Employee Training

a. Annually, employees shall be trained to ensure that they understand the requirements of the permit, including the proper implementation and/or maintenance of all BMPs identified in the facilities SPPP.

i. Employees shall be trained on each aspect of your SPPP that is related to their daily responsibilities.

b. All employee training records shall be maintained onsite and available for Department Inspection.

F. Annual Inspections

1. Annual Inspections

a. The permittee shall conduct annual self-inspections of the facility to ensure that the SPPP is:

i. current and up-to-date;

ii. properly implemented; and

iii. effectively eliminating the exposure of source materials and/or industrial activity to stormwater discharges, as regulated under this permit, through the implementation of structural and non-structural BMPs.

G. Permit Submittals and Deadlines

1. Submittal Requirements

a. Each Newly Authorized Facility shall submit the Department's Certification Form within the time frames specified in G.2 below, certifying that they have:

i. prepared and implemented their SPPP; and

ii. conducted an annual inspection and are in compliance with their SPPP and the permit conditions.

b. Each facility being reauthorized as part of the automatic renewal shall submit the Department's Certification Form within the time frames specified in G.3 below, certifying that they have:

i. updated their SPPP; and

ii. conducted an annual inspection and are in compliance with the SPPP and the permit conditions.

c. The Department's Certification Form is available on the Department's web site at www.state.nj.us/dep/dwq/forms_storm.htm or by calling the Bureau of Nonpoint Pollution Control at (609) 633-7021.

2. Submittal Deadlines for Newly Authorized Facilities

a. SPPP preparation and implementation certification submittal requirements for Newly Authorized Facilities. (Note: Facilities being reauthorized as part of the automatic renewal that have previously submitted their SPPP preparation and implementation certification(s) are not required to resubmit these certifications.)

i. Submit the Certification Form certifying that the SPPP was prepared and implemented: within six (6) months from the effective date of permit authorization.

b. Annual Certification submittal requirements for Newly Authorized Facilities. (Note: The appropriate calendar quarter for this submittal is indicated on your Authorization to Discharge page.)

i. Submit the Certification Form certifying the Annual Inspection was conducted: annually, by the end of the first calendar quarter beginning 6 months from the EDPA, (January – March).

ii. Submit the Certification Form certifying the Annual Inspection was conducted: annually, by the end of the second calendar quarter beginning 6 months from the EDPA, (April – June).

iii. Submit the Certification Form certifying the Annual Inspection was conducted: annually, by the end of the third calendar quarter beginning 6 months from the EDPA, (July – September).

iv. Submit the Certification Form certifying the Annual Inspection was conducted: annually, by the end of the fourth calendar quarter beginning 6 months from the EDPA, (October – December).

3. Submittal Deadlines for Facilities Being Reauthorized as Part of the Automatic Renewal

a. SPPP update certification submittal requirements for facilities being reauthorized as part of the automatic renewal.

i. Submit the Certification Form certifying that the SPPP was updated: with the Annual Certification.

b. Annual Certification submittal requirements for facilities being reauthorized as part of the automatic renewal. (Note: The appropriate calendar quarter for this submittal is indicated on your Authorization to Discharge page.)

i. Submit the Certification Form certifying the Annual Inspection was conducted: annually, by the end of the first calendar quarter (January – March).

ii. Submit the Certification Form certifying the Annual Inspection was conducted: annually, by the end of the second calendar quarter (April – June).

iii. Submit the Certification Form certifying the Annual Inspection was conducted: annually, by the end of the third calendar quarter (July – September).

iv. Submit the Certification Form certifying the Annual Inspection was conducted: annually, by the end of the fourth calendar quarter (October – December).

4. Where to Send All Permit Submittals

a. Effective December 21, 2020, all permit submittals shall be electronically submitted to the NJDEP via the Department's designated Electronic Submission Service.

b. Prior to December 21, 2020 paper copies of all permit submittals can be sent to the following address:

i. New Jersey Department of Environmental Protection
Mail Code 401-02B
Division of Water Quality
Permit Administration Section
P.O. Box 420
401 E. State St., 3rd Floor
Trenton, NJ 08625-0420

ii. If you have completed and sent in the Agreement to Do Business Electronically, all permit submittals can be scanned and emailed to NJPDES_ADBE_signup@dep.state.nj.us.

H. Enforcement Inspections and Permitting Options

1. Enforcement of Permit Conditions

a. The Department's Bureau of Water Compliance and Enforcement routinely inspects facilities authorized under this permit. If violations of permit conditions occur, a facility may receive a Notice of Violation (NOV) and may be subject to penalties, including significant monetary penalties up to $50,000 per day, per violation, pursuant to the New Jersey Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq).

2. Applying for Another NJPDES Stormwater Permit

a. If a facility authorized under this permit discovers that the exposure of source materials and/or industrial activities to stormwater discharges has not been eliminated, or that the facility cannot comply with other provisions of this permit they should immediately contact the Bureau of Nonpoint Pollution Control at (609) 633-7021 or the Department's appropriate regional Bureau of Water Compliance and Enforcement to discuss permitting options.

b. A facility that cannot comply with permit conditions may need to apply for an individual permit or for an industry specific general permit for its stormwater discharge. Authorization under this permit remains in effect until the date authorization under such other permit becomes effective or the Department revokes authorization under this permit.

I. General Conditions

1. Who Shall Submit the Request for Authorization

a. A separate Request for Authorization (RFA) shall be submitted using the Department's RFA form by each person who is an operating entity for any part of the facility requiring a NJPDES permit for their stormwater discharges associated with industrial activity.

i. The definition for "stormwater discharge associated with industrial activity" can be found at N.J.A.C. 7:14A-1.2. This definition lists the categories of facilities and the associated Standard Industrial Classification (SIC) Codes that are considered to be engaging in industrial activity and thus require a NJPDES permit for their stormwater discharges.

b. When a facility is owned by one person but is currently operated by another person, the operating entity shall submit the RFA.

c. Separate RFAs shall be submitted for separate facilities except for:

i. Facilities that have the same operating entity and are located on contiguous properties.

2. Contents of a Complete Request for Authorization

a. NJPDES-1 Form;

b. Supplemental Form; and

c. Site Map depicting the mapping requirements in E.2. above.

d. Additional information may be required by the Department to be included as part of the RFA if the Department determines that such additional information (including other data, reports, specifications, plans, permits, or other information) is reasonably necessary to determine whether to authorize the discharge under this permit.

3. Where to Submit a Request for Authorization

a. Effective December 21, 2020, a RFA shall be electronically submitted to the NJDEP via the Department's designated Electronic Submission Service.

b. Prior to December 21,2020 a paper copy of the complete RFA can be submitted to the following address:

i. New Jersey Department of Environmental Protection
Mail Code 401-02B
Division of Water Quality
Permit Administration Section
P.O. Box 420
401 E. State St., 3rd Floor
Trenton, NJ 08625-0420

ii. If you have completed and sent in the Agreement to Do Business Electronically, the complete RFA can be scanned and emailed to NJPDES_ADBE_signup@dep.state.nj.us.

c. After review of the RFA, the Department will either:

i. Issue authorization under this permit. The authorization is effective on the date the Department issues the Authorization to Discharge; or

ii. Deny authorization and require submittal of an application for an individual stormwater permit; or

iii. Deny authorization and require submittal of an RFA for another general permit.

d. The Department shall issue or deny authorization within ninety (90) days of receipt of a complete RFA. If the Department fails to issue or deny authorization within ninety (90) days, the authorization shall be automatically issued.

4. Additional Notification

a. Facilities that discharge industrial stormwater through a municipal separate storm sewer system shall also submit a copy of the completed RFA to the owner and/or operating entity of that system.

b. Persons requesting authorization shall also submit a copy of the completed RFA to each owner (if any) of the facility who did not submit the RFA.

5. Deadline to Apply

a. Pursuant to N.J.A.C. 7:14A-24.4, the deadline for requesting authorization under a stormwater general permit or applying for an individual NJPDES stormwater permit was April 1, 1993 (with limited exceptions) for any "stormwater discharge associated with industrial activity."

b. The Department may accept an RFA submitted after the foregoing deadline; however the discharger is liable for violations that occurred prior to the submission of the RFA, including discharging without a permit.

6. Automatic Renewal

a. Authorization under this permit will be automatically renewed when this permit is reissued as provided by N.J.A.C. 7:14A-6.13(d)9 so long as the discharge authorized under this permit continues to be eligible. The Department shall issue a notice of renewed authorization to the facility.

b. If the facility is aware of any information in the most recently submitted RFA that is no longer true, accurate, and/or complete, the facility shall provide the correct information to the Department within ninety (90) days of the effective renewal authorization notice.

7. Extensions of Permit Deadlines

a. The Department may grant up to a twelve (12) month extension to the deadline to implement the SPPP, if the facility submits a written request for such extension, at least thirty (30) days prior to the deadline, establishing to the Department's satisfaction that the Federal, State and local permits and approvals necessary for the construction of BMPs identified in the SPPP could not with due diligence be obtained within the time period set forth in the permit.

8. Permit Transfer – Change of Owner or Operating Entity

a. Authorization under this permit may be automatically transferred to a new owner or operator with an industrial stormwater discharge at the same physical location pursuant to N.J.A.C. 7:14A-16.2(d) if the permittee provides written notice to the Department at least thirty (30) days prior to the proposed transfer date.

i. Permittees requesting a transfer of permit authorization should submit the Department's Application for Transfer of a Stormwater Permit form.

b. If a permittee is moving their operations to a new physical location, the permit may not be transferred. The permittee shall request a revocation for their existing permit authorization by submitting the Department's Request for Revocation form and submit a new RFA for their operations at the new location.

c. The above mentioned forms are available on the Department's web site at www.state.nj.us/dep/dwq/forms_storm.htm or by calling the Bureau of Nonpoint Pollution Control at (609) 633-7021.

d. Effective December 21, 2020, the above-mentioned forms shall be electronically submitted to the NJDEP via the Department's designated Electronic Submission Service.

e. Prior to December 21,2020 the above-mentioned forms can be submitted to the following address:

i. New Jersey Department of Environmental Protection
Mail Code 401-02B
Division of Water Quality
Permit Administration Section
P.O. Box 420

401 E. State St., 3rd Floor
Trenton, NJ 08625-0420

ii. If you have completed and sent in the Agreement to Do Business Electronically, the above-mentioned forms can be scanned and emailed to NJPDES_ADBE_signup@dep.state.nj.us.

9. Other Laws

a. In accordance with N.J.A.C. 7:14A-6.2(a)7, this permit does not authorize any infringement of State or local laws or regulations, including, but not limited to the Pinelands rules (N.J.A.C. 7:50), Discharge of Petroleum and other Hazardous Substances rules at N.J.A.C. 7:1E, and all other Department rules. No discharge of hazardous substances (as defined in N.J.A.C. 7:1E-1.6) resulting from an onsite spill shall be deemed to be "pursuant to and in compliance with this permit" within the meaning of the Spill Compensation and Control Act at N.J.S.A. 58:10-23.11c.

10. Discharge of Unauthorized Pollutants

a. For stormwater discharges authorized by this permit, the permittee is exempt from N.J.A.C. 7:14A-6.2(a)2, which states that the discharge of any pollutant not specifically regulated in the NJPDES permit or listed and quantified in the NJPDES application or request for authorization, shall constitute a violation of the permit.

11. Operations and Maintenance Manual

a. The facility is exempt from the requirement to prepare an operations and maintenance manual, required by N.J.A.C. 7:14A-6.12(c), for the discharge authorized by this permit.

12. Construction Activities

a. This permit does not authorize the discharge of stormwater that is associated with construction activities (see subparagraph 1.x. of the definition of "stormwater discharge associated with industrial activity" and the definition of "stormwater discharge associated with small construction activity" in N.J.A.C. 7:14A-1.2). In general, this is the discharge of stormwater to surface water from construction activity that disturbs one or more acre(s). Any facility that operates a construction site with such a discharge shall submit a separate RFA or individual NJPDES DSW permit application for that discharge. A RFA submitted for the Basic Industrial Stormwater General Permit does not qualify as a RFA for such a discharge.

i. A separate RFA for stormwater discharges from construction activities (other than N.J. Department of Transportation construction activities) shall be submitted to the Department.

ii. If applying for an individual NJPDES DSW permit, submit the NJPDES 1 form, NJPDES Form RFC, and NJPDES Form R, Part A to the Department (see N.J.A.C. 7:14A-24.7).

J. Definitions

1. The following definitions apply to this permit.

a. "Access Areas" means any immediate entry or egress (including roads and driveways) and rail lines used or traveled by carriers of raw materials, manufactured products, waste materials, or by-products used or created by the facility.

b. "Best Management Practices" or "BMPs" include, but are not limited to, structural and non-structural controls, and operation and maintenance procedures which can be applied before, during, and after pollution producing activities to reduce or eliminate the introduction of pollutants into receiving waters. (see N.J.A.C. 7:14A-1.2 for the full definition)

c. "Contiguous" means directly abutting, or separated by a general access roadway or other right of way (with at least part of one property directly across the right of way from at least part of the other property).

d. “Facilities being reauthorized” means any existing facility that was permitted under the expired permit and will be automatically renewed pursuant to Part 1.I.6 of this permit.

e. “Industrial Activity” means, but is not limited to, manufacturing, processing, disposing, storing, loading and unloading, transporting or conveying any raw material, intermediate product, final product, by-product, waste product or equipment. This also includes the treatment of a by-product or waste product and/or the maintenance of equipment associated with the regulated activity.

f. “Industrial Stormwater” means water resulting from precipitation that discharges to the surface and/or ground waters of the State from areas of the facility where regulated activities occur and/or where exposed source materials are located.

g. “Newly Authorized Facilities” means any entity that is submitting a Request for Authorization (RFA) for a regulated activity.

h. “Operating Entity” means any person who alone or along with other persons has primary management and operational decision-making authority over any part of a facility.

i. "Process Wastewater" means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, by product, or waste product. Process wastewater includes, but is not limited to, leachate and cooling water other than non-contact cooling water, pressure-wash wastewater, hydro-blasting wastewater, boat bottom wash wastewater, vehicle and equipment wash wastewater. This definition includes the terms commercial wastewater and industrial wastewater as used in 40 CFR Part 503. (Please note that for the purposes of this NJPDES permit, the stormwater discharges regulated by this permit are not process wastewaters.)

j. “Standard Industrial Classification (SIC)” is a system for classifying the economic activities of most industries by a four-digit code.

k. "Source Materials" mean any material(s) including but not limited to raw materials, intermediate products, final products, waste materials, by-products, industrial machinery, and fuels, lubricants, solvents, and detergents located at the facility that is directly or indirectly related to their industrial activities and which could be a source of pollutants in an industrial stormwater discharge.

l. "Stormwater" means water resulting from precipitation (including rain or snow) that runs off the land's surface, is transmitted to the subsurface, or is captured by separate storm sewers or other sewerage or drainage facilities or conveyed by snow removal equipment.

m. “Vehicle” means any device by which people, goods, property or material, is or may be transported upon the water, air or ground.

K. Standard Conditions

1. The following conditions are incorporated by reference.

a. General Permits N.J.A.C. 7:14A-6.13

b. Penalties for Violations N.J.A.C. 7:14-8.1 et seq.

c. Incorporation by Reference N.J.A.C. 7:14A-2.3

d. Toxic Pollutants N.J.A.C. 7:14A-6.2(a)4i

e. Duty to Comply N.J.A.C. 7:14A-6.2(a)1 & 4

f. Duty to Mitigate N.J.A.C. 7:14A-6.2(a)5 & 11

g. Inspection and Entry N.J.A.C. 7:14A-2.11(e)

h. Enforcement Action N.J.A.C. 7:14A-2.9

i. Duty to Reapply N.J.A.C. 7:14A-4.2(e)3

j. Signatory Requirements for Applications and Reports N.J.A.C. 7:14A-4.9

k. Effect of Permit/Other Laws N.J.A.C. 7:14A-6.2(a)6 & 7 & 2.9(c)

l. Severability N.J.A.C. 7:14A-2.2

m. Administrative Continuation of Permits N.J.A.C. 7:14A-2.8

n. Permit Actions N.J.A.C. 7:14A-2.7(c)

o. Reopener Clause N.J.A.C. 7:14A-6.2(a)10, 16.4(b) & 25.7(b)

p. Permit Duration and Renewal N.J.A.C. 7:14A-2.7(a) & (b)

q. Consolidation of Permit Process N.J.A.C. 7:14A-15.5

r. Confidentiality N.J.A.C. 7:14A-18.2 & 2.11(g)

s. Fee Schedule N.J.A.C. 7:14A-3.1

t. UIC Corrective Action N.J.A.C. 7:14A-8.4

u. Additional Conditions Applicable to UIC Permits N.J.A.C. 7:14A-8.9

v. UIC Operating Criteria N.J.A.C. 7:14A-8.16

2. Operation And Maintenance

a. Need to Halt or Reduce not a Defense N.J.A.C. 7:14A-2.9(b)

b. Proper Operation and Maintenance N.J.A.C. 7:14A-6.12

3. Monitoring And Records

a. Monitoring N.J.A.C. 7:14A-6.5

b. Recordkeeping N.J.A.C. 7:14A-6.6

c. Signatory Requirements for Monitoring Reports N.J.A.C. 7:14A-6.9

4. Reporting Requirements

a. Planned Changes N.J.A.C. 7:14A-6.7

b. Reporting of Monitoring Results N.J.A.C. 7:14A-6.8

c. Noncompliance Reporting N.J.A.C. 7:14A-6.10 & 6.8(h)

d. Hotline/Two Hour & Twenty-four Hour Reporting N.J.A.C. 7:14A-6.10(c) & (d)

e. Written Reporting N.J.A.C. 7:14A-6.10(e) &(f) & 6.8(h)

f. Duty to Provide Information N.J.A.C. 7:14A-2.11, 6.2(a)14 & 18.1

g. Compliance Schedules N.J.A.C. 7:14A-6.4

h. Transfer N.J.A.C. 7:14A-6.2(a)8 & 16.2